

Game of the month: Is **Daggerfall** the best RPG ever made?

over
50
new titles and
add-ons reviewed

PC REVIEW

THE COMPLETE GUIDE TO PC LEISURE

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**Which CD
burning
software?**

The ultimate setup

The essential kit for the
ultimate games: See page 26

Brain games

Mensa versus Mastermind:
Multimedia head-to-head

Quake tips

25 more secret areas

Grandstand

In search of sport on the
Internet and CD-ROM

How to:

Make your PC go faster for free
Master Paint Shop Pro 4: top tips
Work from home: we get you started

PLUS...

Stephen Spielberg's first game

Neverhood played and rated

The Softwear Revolution

Use your PC to design and
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Net Crackdown

Internet censorship report

Behind the scenes reports on
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This month...

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Buying a new 3D card?

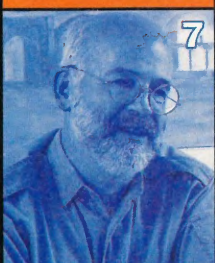
Everybody wants better graphics, but is the new generation of video cards with built-in 3D accelerators really worth the money? We group-test six of the best and come up with a best buy.



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Terry Pratchett interviewed

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Virtual reality giveaway

The latest development in virtual reality technology enables you to view stereoscopic images on your monitor. Read how the SimulEyes VR glasses work, then enter our competition to win a pair. We've got five to give away – what are you waiting for?



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Grandstand

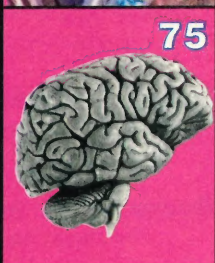
Find out who Eric Cantona supported during Euro 96, pick up fishing tips and speed over to the best Formula One Web site there is. Plus loads more sporting action. Everything you ever wanted to know about sport, via CD-ROM and the Internet.



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Brain games

Two new discs that test your mental capacity reviewed. We take an in-depth look at *Mensa MindBenders* and the BBC's brand new CD-ROM version of *Mastermind*. Which will prevail in a test of total intelligence?



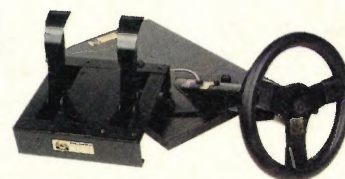
Make great music!

It's easier to create your own tunes than you think – and what's more, it's a lot of fun! We show how to set up your own home studio and take you through making rock, dance, funk and techno!

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The Works

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Multimedia

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Shareware

Psychedelic Screensavers, *Wintidy* and three other useful shareware apps.

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Our easy-to-follow step-by-step tutorial shows you the ins and outs of the all-new *Paint Shop Pro 4*. And the software's on the disc too. Incredible.

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Get out of bed and go straight to work... right across the hall. Teleworking is the latest labouring craze, so here's how to set up your home office.

Designed for



Microsoft
Windows '95

bingo fuel

two bandits on my tail.

gear damaged

both wingmen down

TIME TO EJECT?

No way! You're flying Super EF2000 - Europe's 21st century air-superiority fighter, armed with the most sophisticated defensive and offensive systems known to man. Proclaimed the best simulation of its kind by the world's leading PC magazines, EF2000 is now available on Windows '95, with a wealth of exciting new features. Such as an enhanced version of our war generation system, which puts you in the middle of a thousand plane war. Or the new mission planner for precise tactical control of your flights. There's even a custom-editor that lets you construct the most awesome aerial battles ever seen. And for the ultimate challenge, there's a host of multi-player options that let you fight real-live opponents.

OR TIME TO GET SOME HELP?

Like its real counterpart EF2000 is designed to be easy for pilots to fly. Yet even real pilots know when to buckle-down, swallow their pride and ask for help. Super EF2000 gives you instant access to a context-sensitive, multimedia pilot training system. Exploiting the Windows format to its fullest, Super EF2000 employs point-and-click graphics for rapid access to vital info - precisely when you need it most.

SUPER EF 2000

Windows 95



**TFX
MILITARY**



Fly Super EF2000 on your PC -
the ultimate combat flight
simulation for Windows '95.

PC Zone - 97%:
the highest scoring game ever reviewed.
Computer Gaming World -
best simulation game of
the year, 1996.



WELCOME

The thought of making wonderful music with your PC is intimidating – but you'd be amazed what you can achieve with a little know-how and the right software. Our feature, starting on page 69, takes four genres of modern music and explains how you too can create tunes to rival the pros. It's a lot easier than you think... and a lot of fun too.

If you've been reading about the new wave of video cards just hitting the market and have been tempted by their promises of faster 3D graphics and video playback, then turn straight to page 102, where we tell you the truth behind the company's promises.

On the games side, we lead off with *Daggerfall* – the massive new role-playing game from the makers of *Elder Scrolls Arena*. Also look out for previews of the new space shoot-'em up *Sand Warriors* and racing game *Oddball Engines*.

Enjoy the issue. See you next month, when we go gadget and gizmo crazy with our round-up of 50 top Christmas present ideas.

James Binns, editor jbinns@futurenet.co.uk



YOUR COMPLETE GUIDE TO PC LEISURE

Welcome to the UK's most discerning PC magazine. Every month PC Review brings you...

PLAYER

We offer entertaining, detailed and stimulating games reviews that give you a feel for the games you want to buy. Our reviewers are experienced gamers, who write with passion and authority. Also look out for behind-the-scenes reports from the hottest games studios as well as tips and in-depth solutions for hit games.

This month's bolt out of the blue is the first game from developer Criterion Studios. *Scorched Planet*, reviewed on page 40 really is something special – it's not often a game combines graphics and gameplay so well.



Player is hosted by games editor Mark Ramshaw.

MULTIMEDIA

There's more to entertainment than games, and that's where our multimedia section comes in. We pick out the very best of the latest CD-ROM releases and review them on the basis of how compelling their content is – we're not just impressed by fancy graphics, we're looking for real substance. Our multimedia reviews are the toughest in the business.

Microsoft's new version of *Music Central* makes an appearance, as well as two new discs from The Times Perspectives series. Much more frivolous though is the chance to make your own cartoons with *The Simpsons* (p84).



Deputy editor Garrick Webster is your host for Multimedia.

THE WORKS

This is where you come for the more serious side of computing. But we see no reason why dabbling with creativity software and producing your own graphics or music shouldn't be fun. The Works is also where you'll find our utility software, in-depth buyers guides, hardware projects and answers to our reader's problems.

As well as head-to-head reviews of CD burning software and AV drives, we also bring you a guide to creating and printing your own T-shirts and the latest version of the top photo editing application *Paint Shop Pro 4*.



Technical editor Mat Broomfield presides over The Works.

CD Review

Our CD-ROM is the finest cover disc you'll find on any PC magazine. That means the slickest, most reliable front end, and the best selection of exclusive game demos, productivity applications and multimedia software.

Plus each month we offer a complete commercial product – that means a fully working application previously sold in the stores for cash!



The PC Review charter

The six rules that govern our testing policy...

AUTHORITY: We only employ expert writers. All of our team can call upon extensive experience in their fields.

HONESTY: We never allow corporate interests to get in the way of telling our readers the truth.

DETAIL: We always investigate a company's promises – we never take its word for it!

VARIETY: Each month we select a mix of hardware and software to suit all tastes.

QUALITY: We actively seek out the best and turn down dozens of products offered to us for write-ups.

VALUE: You are spending your own money – we expect you to be careful with it. Price is always an issue.



Our coveted Essential accolade is only given to the very best products – the things you can't live without.

Editor: James Binns

Deputy editor: Garrick Webster

Production editor: Jo Parker

Art editor: Simon Barnes

Technical editor: Mat Broomfield

News editor: Owain Bennallack

Art Assistant: Maria Wilson

CD-ROM editor: Graham Barlow

Futurenet site editor: David Sikk

Production manager: Fiona Milne

Contributors: David Robinson, Chris Buxton,

Mark Donald, Dan Griffiths, Eva Lauer, Peter

Lee, Mark Leigh, Mike Lepine, Chris Lloyd,

Richard Longhurst, Mark Ramshaw,

Will Rutter, James Thomas, Paul Dias

Production co-ordinator: Manuela Green

Advertising manager: Susannah Mansfield

Sales executive: Jenny White

Business dev director: Richard Bogie

Key accounts manager: Shaun Manual

Senior ad manager: Duncan Ferguson

Group advertising manager: Simon Moss

Ad designers: Sarah Moody, Liz Tuck

Production technicians: Jon Moore, Jason

Titley, Simon Windsor, Chris Stocker,

Liz Cheney, Mark Gover

Group production manager: Judith Green

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Marketing manager: Gill Stevenson

Marketing (mail order): Simon Howarth

Marketing (subs): Simon Steele

Publicity & PR: Liz Ramsay & Jenny Press

☎ 0171 331 3920

Promotions manager: Tamara Ward

CD-ROM manager: Ben Rodd

Publisher: Jim Douglas

Publishing director: Jane Ingham

Managing director: Greg Ingham

Chairman: Nick Alexander

For all Licensing Enquiries regarding

PC Review, please contact Mark Williams

☎ 0171 331 3920

Fax: 0171 331 3929

email: mwilliams@pne.co.uk.

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PC Review,

30 Monmouth Street,

Bath, BA1 2BW

☎ 01225 442244

fax: 01225 732275

email: pcreview@futurenet.co.uk



An audience with...

TERRY PRATCHETT

You've read all his novels and you've played his game. But have you heard what he has to say about PCs?

When it comes to new technology, authors are traditionally quite conservative, which makes Terry Pratchett's gentle computer enthusiasm come over like techno-evangelicalism. As clued up about PCs as he is about Death, he once interviewed Bill Gates for GQ. We asked him about *DiscWorld 2*, computer games, the price of fame and why, if it's so cheap, can we never afford it?

The first *Discworld* game was very well-received. Was *DiscWorld 2* just a question of doing more of the same?

Well, lemme see... there's *Doom 2*, *Wing Commander 4*, and a whole slew of games that are in a series. We just thought, people liked the first one, another one would be fun – and there's better sound and graphics tools around.

So could you give us a taste of what we've got in store?

Nope. But there's a lot of Death in it.

How much of *Discworld 2* is your own work?

Much less than in the first *DiscWorld* game, because it was all so new then and I didn't trust anyone! Mainly I just approved the look of the characters – although no one seems to be able to draw an orang-utan these days, it's a lost art – and I did a lot of tinkering with the script.

It must be nice to get the likes of Eric Idle and Nigel Planer involved in your work...

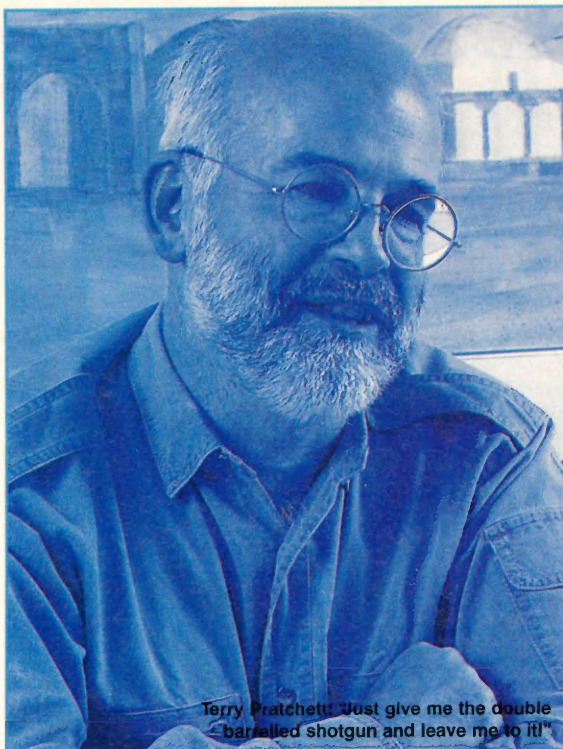
Well, I don't think we'd have done it with any other Rincewind. And Nigel Planer has done a great job with the full-length book tapes. Good voices make the game.

Is this vast *Discworld* empire of novels, games and so on a bit surreal, or has it just crept up on you?

Oh, I can handle it (I can stop any time I like.) The hard bit is pulling back and not looking over everyone's shoulder. Sometimes you just have to let other people get on with it.

Do you still believe a novel is just as interactive as a game?

Yes I do. All I've got with a novel is 26 letters of the



Terry Pratchett: "Just give me the double-barrelled shotgun and leave me to it!"

alphabet and some punctuation – the reader supplies sights, sounds, smells and tastes. Books are more interactive. Sure, you can run around *Quake* in a different way, pick up some stuff in a different order, but there's a limited range of options if you want to get to the next level. Books are like radio – the scenery is better.

Do you play computer games yourself?

Recent ones have been *Quake*, *Duke Nukem* and *WC4*. I'm not particularly intellectual about games. Just give me the double-barrelled shotgun and leave me to it!

Can you foresee a day when computer games might replace novels?

Sure – for the terminally dumb. Hey, imagine *Pride and Prejudice: the Game!* POW! Zappo! Eat hot laser, Lady Catherine de Burgh! 10,000 points and you get an extra Bennett! Look, games are fun, they really are, they can be great, even educational... but they have their limits.

I'm told you're a PC user, rather than another literary Mac man.

When I bought my first PC, Macs were too

expensive and they didn't have the software base. Since then, I've formed the opinion that Macs were for people who manipulate things rather than create them. I might be entirely wrong – prejudice usually is – but that's my loss.

So what would you change about PCs if you had Bill Gates locked in a room (again)?

I'd want to get rid of that damn 640k limit and make the PC far more expandable. It *used* to look expandable. Now anyone with a reasonably up-to-date system soon runs out of slots and IRQs. Oh, and I'd like a stable Win95, a box of soldiers, a helicopter that really works, a puppy called Spot and peace on Earth.

Are we ever going to get a *Discworld* film?

Mort the Movie looks promising – they paid me a huge wad of cash, which is always a good sign. But I'll believe it'll happen when I walk out of the premier.

Discworld is due to be published by Psygnosis in January. We've already arranged to bring you the playable demo next month.

Paperback giveaway

We've teamed up with Psygnosis to bring you a top Terry bonanza. The first 20 postcards received at the following address will get a copy of Terry's new paperback, *Maskerade*, absolutely free! Write to:

PC Review *Discworld* giveaway PR,
Psygnosis, Napier Court, Wavertree
Technology Park, Liverpool, L13 1EH



Terry Pratchett leaves the world of goblins and wizards behind for a night out at the opera.

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PLAYER IN BRIEF

Make peace with war

In *JetFighter 3*, the new flight sim from Mission Studios, you play a pilot on-board the UNS Peacekeeper. As a member of the UN Rapid Deployment Force you might fly anyone of three planes – the F-22, F14 or the F/A18. We had a go at the recent ECTS show and found some of the effects (such as flying above valleys pooled with clouds) simply stunning.



JetFighter 3 from Mission Studios

Fists fly over Quake

When *Quake* went on sale, some large chains instantly cut their prices, to the detriment of local independent computer stores everywhere. Worse, they were accused of breaking the release date, a sin that would never be tolerated in the music industry. One independent retailer commented: "The price of *Quake* is a joke. Each unit cost me £29.40, so I make no money on the game if I sell it at £29.99. It went on sale in some places before we even got any stock. The indies have been shafted once again."

Excessive

On the subject of *Quake*, the hunt for the next contender continues. While you wait for *Unreal*, you might look at *XS* from SCI. In *XS* you play a gladiator, sizing up against your opponents in a multi-levelled arena. It has a uniquely

cerebral feel, tonnes of tactical game-play and weaponry, and should be with us by Christmas.

Challenge this bloke to a fight in *XS*

NEWS

THE INTERNET HAS BEEN CENSORED

...but the fight for internet freedom goes on

The Internet is no longer the bastion of free speech and free information it once was. Events around the world have conspired to make on-line censorship inevitable, despite the protestations of free speech campaigners.

Obscene and illegal

In the UK, Chief Inspector Stephen French of the Metropolitan Police wrote to more than 140 UK service providers requesting that they block access to more than 100 sex-related newsgroups. Most sites on the blacklist are in the alt.binaries.pictures.erotica hierarchy, where undoubtedly obscene and illegal images are regularly posted, but the list also included forums such as alt.homosexual where gay men and women discuss sexuality.

Most service providers were expected to comply with Chief

Inspector French's requests, though through their trade body the Internet Service Provider's Association (<http://www.ispa.org.uk/>), they argue they should have the same immunity from prosecution as common carriers such as BT and the Royal Mail, because they cannot know what information is sent across the network. While this is true to a certain extent, it doesn't take a genius to work out what a newsgroup called alt.binaries.pictures.erotica.pedophilia.boys might be used for. Service providers counter this saying that if these newsgroups were removed, paedophiles would find another place to swap pictures – a needlecraft forum, for example.

On 28 August, *The Observer* heightened the

pornography and censorship debate with a sensational headline claiming that UK service providers such as Demon were contributing to child pornography by refusing to censor certain newsgroups. The article showed a basic lack of understanding of the nature of the Net, and a groveling apology was printed in the following Sunday's paper, but the

Censorship sites in the UK

Internet users in the UK aren't taking the calls for Net censorship lying down. Heated debates in newsgroups such as uk.media and the uk.net hierarchy add fuel to the furore, while there are several Web sites which enable you to keep up with all sides of the argument.

CommUnity

<http://www.community.org.uk/met.htm>
CommUnity has been campaigning for electronic rights and electronic freedom for many years. It's the nearest thing the UK has to the Electronic Frontier Foundation (<http://www.eff.org/>), a vociferous anti-censorship group in the US.



The Metropolitan Police

<http://www.open.gov.uk/k/police/mps/home.htm>
Funniest site on the Net. It not only

digital

diversity

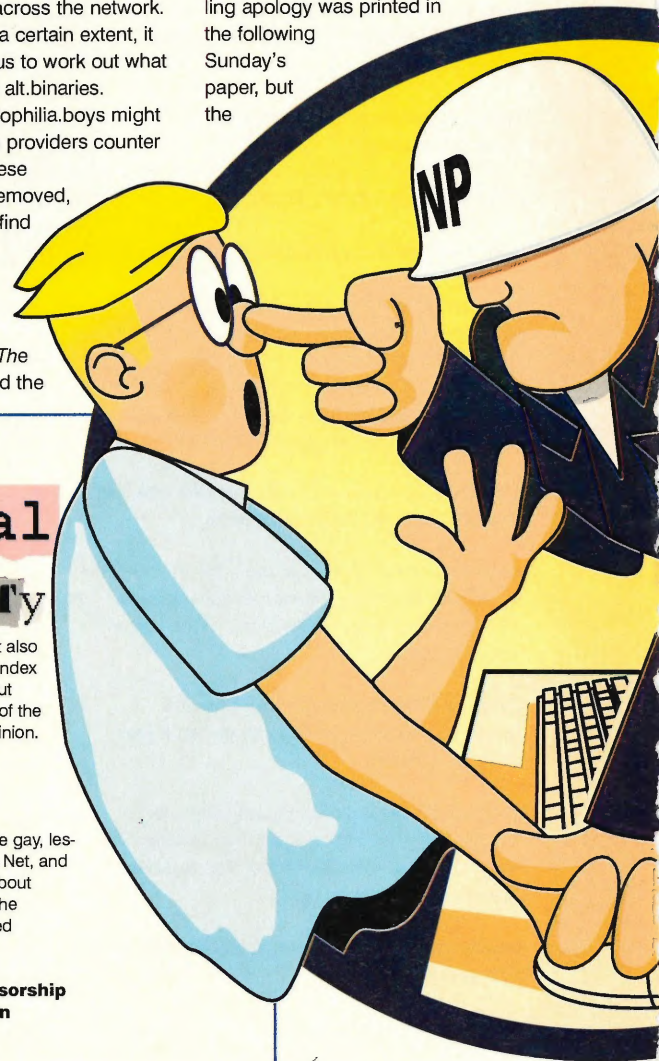
has the best cop gags, but it also boasts the uproarious Cool Index for Streetwise Kids. Check out Living Marxist's Get the Met of the Net site for a more sober opinion.

Digital Diversity

<http://www.diversity.org.uk/diversity/>
A group that aims to promote gay, lesbian and bisexual use of the Net, and which is rightly concerned about some of the implications of the blanket banning of sex-related newsgroups.

Campaign Against Censorship of the Internet in Britain

<http://babylon.ivision.co.uk/>
Nuff said.



Singapore government restricts Net access

The Singapore government, not known for its leniency or laissez faire attitude, decided that all information coming into the country over the Net had to pass through proxy servers. Set up by the Singapore Broadcasting Authority, the servers block access to sites that are deemed objectionable by the SBA. Critics say that not only will they be used to filter out obscene and illegal images, they will also be used to censor sites critical of the government. They will also slow down Net access.

"We will regulate the Internet with a light hand and our objective is to promote it, not to impede its development," said Minister for Information and the Arts George Yeo. Access to magazine sites such as *Playboy* and *Penthouse* had already been blocked in Singapore, and subjects such as astrology and palmistry are also banned because of religious sensitivity. Other Eastern countries such as China are thought to be watching the Singaporean experience before they decide how to restrict Net access.

The Singapore Broadcasting Authority is at <http://www.gov.sg/sba/>

damage had already been done. The Internet Developers Association, a body made up of Web developers, media owners and advertising agencies, hastily convened a full day conference on the issue, with representatives from the Internet industry, anti-censorship groups, Scotland Yard and the press. Even

though no final solutions to the problem were decided upon, it became clear that none of the service

providers was keen to be taken to court as a test case. Former Pipex boss Peter Dawe outlined a sketchy plan for a censorship service, but his cause was not furthered by his comment that his "personality is too impatient to seek a consensus".

Pornography and violence

The Observer feature also named Johan Helsingius as "the Internet middleman who handles 90 per cent of all child pornography". Helsingius has become part of Internet folklore by running the anon.penet.fi mail server in Finland, which enabled users to send anonymous e-mail messages. This was usually so they could discuss sensitive issues such as human rights and domestic violence without

fear of recrimination. His server often forwarded up to 8,000 messages a day, and contrary to the *The*

Observer's wild accusations, was only capable of forwarding short text messages, not the long binary files required for sending pictures, obscene or otherwise.

Helsingius is currently considering taking legal action against *The Observer* for what he calls its "unjustified accusations", but whatever the outcome of the case, the anon.penet.fi remailer is no more, thanks to an unrelated action by the Church of Scientology (<http://www.dianetics.com/>).

The Scientologists accused one of the remailer's users of sending out its copyright information over the Internet, and a Finnish court order required Helsingius to reveal the identity of the user, essentially destroying the anonymous nature of the service. Until the legal position of its users can be clarified, Helsingius has stated, the anonymous remailer has been suspended.

A HOME OFFICE IN A BOX

You're desperately in need of an office, but all you've got is a sitting room? Before you erect that monstrous carbuncle of an office tower in your backyard, check out this new all-in-one solution from Casio. It might look like the sort of gizmo and gadget smorgasboard James Bond would call upon to aid him in some treacherous covert guerilla accounting operation, but in fact the suitcase is stuffed with practical tools. Pitched firmly at the SOHO – Small Office Home Office – market, it's designed for the sort of people who play games and mess about with a couple of arts packages but occasionally wonder if they should be doing their accounts. (In short, people inspired by our Working from Home feature, starting on page 109.) The office includes a digital diary, a desktop calculator a memo recorder, an overhead printer, a printing calculator and a digital camera – you'll need to supply your own PC. Contact Casio for more details.



The Casio home office even includes a miniature secretary, who will dictate for you and provide you with tiny cups of coffee.

Safety Net

As PC Review went to press a new measure to regulate Net nasties was announced. Government agencies, the police and Internet providers have teamed-up to bring you Safety Net, a self-regulatory system to be built on co-operation between interested parties. The service providers have agreed to deny access to hard core porn sites and newsgroups at the behest of the authorities. Meanwhile, users who come across offensive sites and wish to become Net narks can make complaints about them. A rating system is also to be introduced so parents can prejudge what sort of material is likely to be at any given site before their children access it.

TO THE MANOR UNBORN

Lose yourself in the Realms of the Haunted

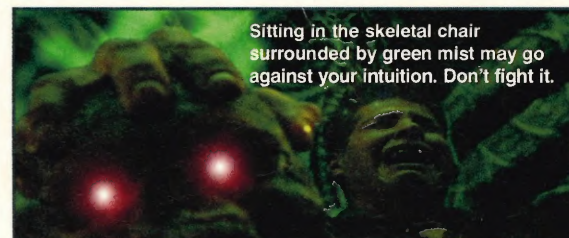
Gremlin's big game for autumn counts Heaven, Hell and the Apocalypse among its modest inspirations. *Realms of the Haunted*, an adventure set in a manor house in the unfortunately named village of Hellston, promises over 120 minutes of full-motion video and a new, photo-realistic 3D game engine.

The FMV was shot using blue screen techniques at the Bright Lights studio in Warwickshire. This involves filming the actors against a blue background, which is later replaced by computer-generated backgrounds. Residents living nearby Bright Lights were probably not too alarmed by horrific visions of demons, ghouls and B-movie actors, though, since Tom Lutton, the studios owner, already boasts work on the likes of the *Nightmares on Elm Street* series.

Meanwhile, the graphical adventure uses what Gremlin calls its True3D engine. This stores complex textures in memory until they are

needed on screen and enables, according to Gremlin, fast action and true photo-realism. Gremlin also claim that the demons in *Realms of the Haunted* were all motion-captured, but we believe this pushes the realms of credibility somewhat. To the knowledge of PC Review, no Gremlin staff are involved in the black arts.

We've consulted our ouija board and discovered *Realms of the Haunted* will appear in shops sometime before Christmas. We have no idea how much it will cost, but we did discover that "the big cat in socks will eat carp tonight".



Sitting in the skeletal chair surrounded by green mist may go against your intuition. Don't fight it.

MULTIMEDIA IN BRIEF

Pink Panther



The truly original, rinky dink Pink Panther.

The elusive feline cartoon character which shot to fame with Peter Sellers series of *Pink Panther* films is now to appear as the main character in a CD-ROM. *The Pink Panther's Passport to Peril* is an animated game aimed at the family and focusing on cultural exploration. Using the disc, users will see the one and only Pink Panther travelling to lands including Egypt, India, Australia, Bhutan, China and England. *The Pink Panther's Passport to Peril* costs £29.99 from Anglia Multimedia.

Bellamy backs new CD

The world renowned botanist and conservationist Dr David Bellamy is to feature on a CD-ROM entitled *Worlds of the Reef*. Published to celebrate 1997, the International Year of the Coral Reef, the CD will include images and movie footage shot by Bellamy's Coral Cay Conservation organisation and the BBC Natural History Unit.

Nobel science experts speak

Prof Stephen Hawking is among 13 world famous scientists and nobel prize winners to lend his voice to a new CD which answers the questions of the universe. *Challenge of the Universe* is to include three hours of video and animation to help explain some of the deeper secrets of science. The disc will cost £49.99 from the Oxford University Press.

Also being released by the OUP is a series of dictionaries. The 9th edition of the Concise Oxford Dictionary is to be released this month at £19.99, while French, German and Spanish bilingual dictionaries each containing hundreds of thousands of translations are on sale at £49.99 each. A three-in-one bundle covering all three languages costs £120.

Encyclopedia double

Two new multimedia encyclopedias hit the shelves this month. The 1997 Grolier Multimedia Encyclopedia is the ninth edition of this collection of articles, maps, pictures and video clips. It will be £49.99.

At £9.99 the Webster's Interactive Encyclopedia is a fraction of the cost and looks similar to the Hutchinson's Interactive Encyclopedia of year's past. Available through Focus Multimedia.

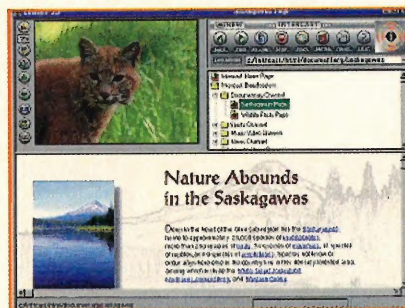
INTERCAST AWAY

Intel's new vision links TV to the Internet

Poor Intel. It dominates the world's PC chip market, only to find no one really cares anymore. Today everyone talks about connectivity and transparent platforms, centralised computing and the blessed Internet. Even MMX can't manage to generate the same enthusiasm the 486 once did.

Realising it's got the money to hedge its bets, Intel is funding substantial research into new Net technology. Perhaps the first interesting result is Intercast. This hardware and software tandem combines television with the Web, via your PC, to provide a medium offering the advantages of both. With the Intel Intercast viewer, you can watch a TV program while accessing Web pages associated with that program. The Web pages are accessed either through the Internet or, more interestingly, broadcast along with the TV signal, using spare blank lines in the television signal. The result is phone-bill-free Internet content.

As you can see from our screenshot on the left, the



More nature than you can shake a tail at, with the double-punch of text and telly enabled by Intel's new Intercast technology.

Intercast vision is one of closely-coupled television and Internet content. You could be watching the news, for instance, and use the Internet to access additional historical details or to retrieve police hotline numbers. Consumer programmes could be linked with shopping sites where the products could be bought over the Net. All the time you'd continue to receive the television broadcast while simultaneously navigating the Web. To

access Intercast, your PC would need a new Intercast board. As yet there's nothing commercially available in the UK, but in the States AST and Compaq are shipping new PCs with Intercast technology.

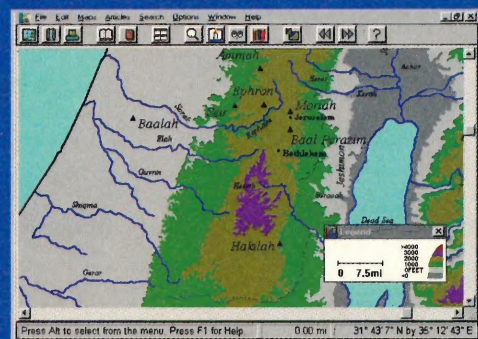
Although Intercast is apparently on the verge of exploding in the States, over here the picture is clouded by the major channels teletext services. These services already make use of the spare television signal. But with Oracle, ITV's teletext supplier, rumoured to be interested in developing an Intercast service, it seems that purple and green block-character animation may be dead before the 21st century.

Sunday School

New tool makes Bible study easier

QuickVerse 4.0, from Guildsoft Ltd, is a collection of reference tools to aid Biblical studies. It enables users to conduct complex searches on Bible text and to manage their reading – for instance by cross-linking references or adding footnotes. QuickVerse 4.0 includes wildcard searching facilities, enables the creation of personalised indexes and allows the Bible text to be searched by over 20,000 topics. There are five different texts included.

Meanwhile, in the same collection, the *PC Bible Atlas* gives you a historical perspective through over 100 interactive maps. For instance, you can open the map up to the Ministry of Jonah, and drag your mouse from Joppa to Tarshish to see how far Jonah tried to run from God (more than 2,000 miles). There are also Bible dictionaries, including Greek and Hebrew translations. The QuickVerse 4.0 New Bible Reference collection costs £79.95, from Guildsoft Ltd.



The maps provided by PC Bible Atlas may provide a new perspective to biblical events.

ULTIMATE FOOTY BIBLE

Video clips of all England's Euro 96 goals, audio comments from Glen Hoddle, Eric Cantona and Robbie Fowler, plus heaps of football statistics are just a few of the many great features promised on the *Ultimate Soccer CD*.

Soon to be released by VSI, the company responsible for countless football videos for clubs up and down the country, the *Ultimate Soccer CD* claims to offer encyclopedic coverage of the 1995/96 season. In fact, its makers say it will be the CD-ROM equivalent of the *Rothmans Football Yearbook*, the highly regarded football stats book.

"It's a moving, talking Rothmans, for want of a better description," John Gubba of VSI recently told *PC Review*. "We're looking for it to be the multimedia bible of football."

To add to its credibility, the *Ultimate Soccer CD* includes contributions from *The Mirror* and *Independent*, plus commentary from Jonathan Pearce of Sky Sports and Capital Radio fame. All the League divisions in England and Scotland will be covered. It will cost £29.99 and will be available this month.

But wait, that's not all! Cricket fans too will be in for a real treat with *Cricket – A Celebration of Summer's Greatest Game*. This CD-ROM will highlight the domestic game, England test matches and will contain up-to-date stats from the season just passed. A sport extravaganza for fans everywhere!



Hear Eric talk about seagulls and see him score his FA Cup winning goal.

BEATING THE PROS

Unleash your potential as a top games designer

Most people who use their PCs creatively also play games. Yet how often are these two interests combined? Once, the long step between playing *Manic Miner* and designing *Jet Set Willy* was at least achievable. But in the million-dollar industry of today, home game design seems just a pipe-dream.

This is a shame – designing games is fun and we all have at least a couple of innovative new ideas. Yet once you accept that you're unlikely to create the next *Tomb Raider*, you'll find there are plenty of ways to out game creation. *Visual Basic*, object-orientated programming and even *Quake's* map editors and editable source code are all modern options. Commercial game creation tools are another, simpler route. And with the Internet booming, distribution is no problem.

With this in mind, we asked an expert for his top design tips. Richard Vanner of Europress has worked on game design projects including STOS and AMOS on the old 16-bit machines, before heading the team responsible for the Europress' new *Games Factory* tool. So, what are his golden rules of game design?

Get intimate right away

"It's important that you know the limits of the system for which you are creating

your game, and then plan your game around these limits."

Dress to impress

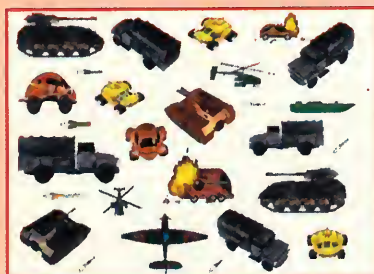
"Animation and graphics can make any game look amazing and state-of-the-art, so aim for high quality. A decent 3D rendering package can really help here."

Remember, don't dismiss gameplay

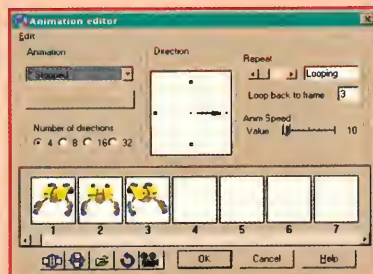
"Build in great game play. It's worth remembering that *Tetris* didn't have fancy graphics – it was just so simple and cool to play."

One way to practise these rules is with Richard's own baby, *The Games Factory*. This game design tool enables you to try out your ideas without learning assembler or drawing hundreds of cells of animation. Everything is set up your game via banks of icons and menus, so you can get going straight away. The kit comes with the basic game structures, thousands of animated graphics, tools for morphing and special cinematic effects and more than a thousand CD sound samples.

With three customisable games included to inspire you, *The Games Factory* costs just £69.99 – loose change to the creator of next year's blockbuster.



Planes, trains and exploding futuristic refuse collection trucks are among the vehicles on offer at *The Games Factory*.



It may seem complicated, but handling sprite animation with *The Games Factory* is infinitely easier than learning C++.

Game On

Gametek gets going with two new titles

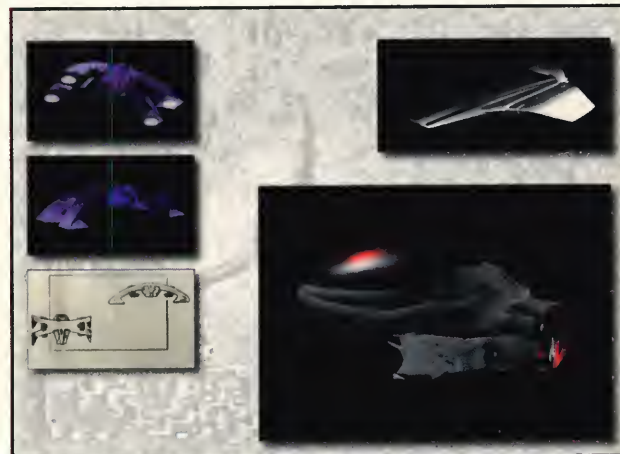
Following its recent restructuring and streamlining, the revitalised GameTek is set to release two new games this month. *Net:Zone* is a 3D point-and-click adventure set in cyberspace, while *Surface Tension* is a futuristic, multi-vehicular flight sim.

The plot for *Net:Zone* is rather complicated, but it involves a conspiracy to infect the world's computers with a virus, a disembodied father who must be rebuilt as an artificial lifeform and stacks of virtual technology that you must master, trapped as you are in a virtual world. Ultimately, your mission is to discover how to re-enter the real world. With full 360° panoramic vision, hi-colour graphics, digital speech and a story that promises to be very cerebral, *Net:Zone* is released this month at £39.99.

The essence of *Surface Tension* is more straightforward – you fly about shooting things. Your ultimate goal is to stop the spread of PMA, a deadly airborne disease which is ravaging the earth's population. To do this you must battle through the camps of the LYNX corporation, who own the only mine which contains the vaccine. Gametek promises an evolving storyline and stunning 3D terrain when *Surface Tension* hits the shops this month, again priced at £39.99.



Net:Zone: one thing you can't knock a virtual reality for – there are always enough chairs to go around.



These pictures give a good idea of both the finished vehicles you'll find in *Surface Tension* and how they were first conceived.

5 SITES FOR NOVEMBER

How are our games companies faring in the brave new world? We look at five of the best on-line offerings...

Blizzard Entertainment blizzard.com

As you'd expect from the creators of *Warcraft 2*, Blizzard Entertainment's site puts utility before vanity. For example, there's a tip of the week to keep us coming back, information on forthcoming games, product support lines and tantalising job opportunities. But the hot news is the forthcoming *BattleNet*, Blizzard's ambitious land-grab for the on-line gaming future.



Microsoft microsoft.com/games

This site includes the odd ability which enables you specify your 'mode'. It then

slants the material according to your preference. This might seem overkill when you consider Microsoft's fairly average range of games ("Err, I'd just like to state that I'm an uninspired purchaser of bland games, please.") but it's a worthwhile gimmick in a site packed with ideas and just waiting for a monster game.



Id Software

www.idsoftware.com

It owns the net and its Web site proves it. More than just a place to boast, id's site is its main US distribution point for the all-conquering *Quake*. It's also the official home of the *Quake* Clans, the top death-

match teams in the world, and it will soon house *QuakeWorld*, id's central *Quake* server that will tally up the scores from all the world's *Quake* servers. A good bridge between today's product focused sites, and the on-line gaming sites of tomorrow.



Electronic Arts

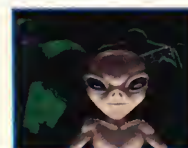
www.ea.com

Perhaps the biggest hurdle the builders of this megasite had to overcome was how to incorporate all EA's affiliate operations. They do it with aplomb; companies such as Bullfrog have their own personal Web space but link well with the main page. The information is a little too preview orientated, but there are lots of

screenshots, animations and relatively interesting product background hiding among the cutting-edge designed pages.

Microprose microprose.com

A straightforward, practical site with a clean design and bags of information. You might have hoped for some real innovation from the people responsible for *Civilization*, but when you're hunting down a particular demo or product release date, you'll be glad of this streamlined design and forgive them. Nothing dramatic, simply all the info a games company should provide.



THE WORKS IN BRIEF

Downed pilot

US Robotics has cut the price of its acclaimed Pilot personal organisers. The Pilot 1000 now costs £249 while the Pilot 5000 is pitched at £299. The Pilot is a short-pocket-sized organiser that can automatically synchronise with your PC at the touch of a button.

Phone furore

Intel has released a new version of its popular Internet phone. The new version includes a busy line indicator, a call progress indicator, support for the popular Directory services, but its download size has been reduced by a third. The phone enables you to call long distance using a multimedia PC for the price of a local call.

Snap happy

Video grabbing is even easier, with the release of Snappy, a boardless device that plugs into the PCs parallel port and links to a video camera, a TV or any other PAL video source. It can grab up to a resolution of 1,500 by 1,125 pixels, and is bundled with PhotoDeluxe and Kai's Power Goo. Logitech has set the price at £199.

Cutting-edge diamond

Diamond Multimedia has confirmed it will support the new high-speed analog modem technology recently announced by Rockwell Semiconductor Systems. Diamond intends to incorporate the new modems, which will offer a 56Kbps transfer rate, into its Supra range. Current modem technology peaks at 33.6Kbps.

New Psions

If one company has popularised the personal organiser market, it's Psion. The mobile marketeer recently announced two new models, the Psion 3c and the Psion Siena. The key development is built-in communications technology, which uses infrared to transmit information wirelessly from the Psion to a printer, PC or even another Psion. The 3c costs from £339.95, whilst the Siena (a condensed version of the 3a) costs from £169.95.



When's your mum's birthday? Your next dental appointment? Don't know? You need one of these.

WINDOWS CE

Microsoft's new operating system

In yet another thrust to move its technology off the desktop and into our homes and hands, Microsoft has announced a new operating system, Windows CE. Essentially, this is a stripped-down version of Windows 95. It's designed to run a whole range of consumer appliances, providing a link between your PC and, say, your PDA. As such, it will compete with the Navio standard already announced by Internet giant Netscape Communications Corp.

Although the first thrust for Windows CE will be the personal organiser market, Microsoft envisages our homes bristling with CE equipped products in the future, including cellular phones, TV-top browser units and even games consoles. And most of these products would link up via the Internet, to provide a truly wired household. Because the new operating system is compatible with existing Windows products, updating shopping lists or PDAs via your PC would be trivial. Compaq, Casio and Hewlett-Packard are just three of the companies committed to supporting Windows CE. They'd be mad to refuse.



The prototype Windows CE interface looks familiar enough, but there's no handwritten text recognition yet.

What is a PDA?

Personal Digital Assistants (PDAs) were first mooted 20 years ago by Alan Kay, one of the geniuses then at Xerox. He called his portable hand-held computer the Dynabook, and he'd moved to Apple when it released the Newton two years ago. The Newton was flawed, but comes closest to the dream PDA: built-in communication facilities combined with personal information management. Most expect the PDA market to ignite when the two functions appear at a magic price, with the PDA market broadening to include everyday PC users and home PC owners. Microsoft would like to establish Windows CE as the standard, to ride on this anticipated explosion.

Miro competition results

At last, we can name our two lucky Miro competition conquerors. We asked you: "Who is credited with inventing the world's first television?" And the man we have to blame is Vladimir Zworykin, who in 1928 invented the iconoscope, the first television pickup device.

Right then, who can lay claim to the miroMedia View TV bundle? Who will revel in a Trio 64V+ graphics processor, gasp at sixteen million colours, swoon to on-board graphics decoding and watch telly in the comfort of their own desktop environment?

Mr R E Scott of Shaldon, Devon and Miss L Chesterton of St Helens, Merseyside, that's who. Congratulations (and, of course, nearly £500 worth of top video hardware) to the both of you.

GIZMOS The best of the material world



Casio QG-100

Here's something for the boy who has everything. Since he's sure to have a Casio digital camera, he'll find this thermal

printer a boon. For just £199, the QG-100 produces colour prints direct to special adhesive tape, so you can personalise your birthday cards, letters, death threats and stationary. Alternatively, use the smaller 18mm cartridges (which bang out six images at once) to plague your ex's office with 180 reminders of the time you both agreed to fool around naked for the camera.



Formula T2

Here's everything you need to create your own car. OK, it doesn't include wheels, an exhaust pipe, an engine, a spacious back seat,

a glove compartment, a tax disk and a 'Trevor and Diane' windscreen sticker, but it does feature a cushion grip steering wheel and gear handle, as well as separate gas and brake pedals. It even includes a couple of programmable buttons, enabling an ignition or a horn or possibly a missile launcher, depending on your title. It costs £169.99, from Contemporary Games.



SimulEyes VR Glasses

Remember those blue and red cardboard glasses that used to come with surprisingly now defunct magazines

like *Look In?* Years later, you were shocked to discover that their messed-up double-vision could be achieved without technical wizardry, but at age eight they were magic. The SimulEyes VR glasses (available in the UK through Oregon) are a similar proposition. On the face of it, they're the sort of Heath Robinson affair you wouldn't want near your two grand multimedia workhorse, but until they start selling VR helmets at Dixons, they're probably the cheapest way to add another dimension to your gaming. They'll only work with specially written games, but since the likes of Interplay are backing them, this will be no problem.



Ricoh DC-2

If you're unhappy with your old Polaroid camera, maybe it's time you stepped up to the Ricoh DC-2. As well as boasting a

stunning resolution of 768 x 576 pixels, budding Don McCullins will be amazed to discover it can even add a ten sound burst of audio commentary to accompany each snapshot. Just imagine if the great war photographers had been able to add a humble eyewitness report to the horrors they'd recorded on film. The DC-2 should cost less than £1,000 when Ricoh announce a price next month. Incidentally, if you're considering a digital camera (and believe us, you should - they're cheaper and better than ever) then don't miss our complete buyer's guide in next month's issue.

THE BEST OF ECTS

Last month the world's top games developers got together at the bi-annual European Computer Trade Show. We picked out five of their best offerings. Watch for them...

MDK, Interplay, due December



Accurate character modelling enables you to indulge your sadistic fantasies.

The first of the next-gen 3D games, MDK boasts motion captured protagonists, who react realistically to, let's say, being shot in the face. The scale hits you straight away – you can shoot enemies lurking miles away with just a twitch of your sniper helmet. And the character modelling is so accurate you can literally shoot the legs off your opponents.

Red Alert: Command and Conquer 2, Westwood, due November

The concept of *Red Alert* is this: World War 2 never happened, Stalin's Red Army is on the rampage and Western Europe is in his way. Luckily, playing

Red Alert requires no historical rewrites. It's the same great gamplay that saw weekends disappear to its predecessor. Significant improvements include bigger maps, more flying units and naval battles.



Westwood has global domination in its sights with *Red Alert*.

Tomb Raider, Core Design, due November



Bubble, bobble with Tomb Raider from Core Design.

It's the most exciting third-person game we've ever scene, it stars a girl in khaki shorts, it's big and it's clever. *Tomb Raider* looks simply gorgeous, with cinematic camera action and locations ranging from pyramids to palaces. You're splashing around in a river, suddenly you're plummeting over a waterfall, now you're 50 feet underwater – it's straight out of Steven Spielberg. But Lara outshines Indie in the charisma stakes any day, she can call on over 4,000 cells of animation.

Dark Earth, Mindscape, due March



Dark Earth is looking truly brilliant, with its silicon graphics rendered settings.

A whole culture and social system has been invented for the *Dark Earth*, currently in development at Mindscape Bordeaux. In this 3D adventure you'll find yourself in a post-holocaust future where the skies are black and mutants roam the unlit wastes. Human colonies, organised into cults and sects, cluster under cracks in the clouds, processing the precious light into a form of energy. In this environment, the character you control has been poisoned and must find a serum before turning into an evil beast.

Privateer 2: The Darkening

A couple of weeks late and costing over five million dollars, we had hoped to bring you an exclusive playable demo of *The Darkening* this month, along with a four-page review and behind the scenes report. It slipped. But at ECTS it was one of the most celebrated titles, even in an unfinished condition. Comments such as 'better than *Wing Commander 3*', 'better than *Frontier*' and even... 'better than *TIE Fighter*' bounced around. We're excited about next month's exclusive.



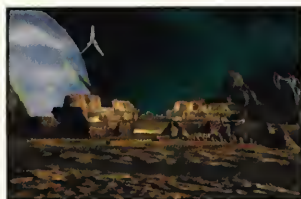
The Darkening: play it next month thanks to PC Review.

STAR WARS RULES

New tack for LucasArts with the strategy based *Rebellion*

Look, let's end this thing once and for all. Do the Empire reign unchallenged in the Galaxy Far, Far Away or do the rebels bring everlasting peace, eventually, a Long, Long Time Ago? What with all the *Wing Commander* games, *Dark Forces* and the forthcoming Jedi knight title, LucasArts has a vested interest in leaving the issue unresolved. But you can settle the matter in the tale of space-conquest, *Rebellion*.

Unlike the other *Star Wars* spin-offs, *Rebellion* is a strategy game. You either play



Echoes of *Command and Conquer* in this shot from LucasArts new strategy.

the bold heroes in the Rebel Alliance, or the plastic-coated Empire chaps. You must capture Darth Vader or The Emperor, or overthrow the Imperial Seat at Coruscant, while baddies gun for Skywalker, Mon Mothma or the Rebel headquarters.

"*Star Wars* has provided LucasArts with a universe full of possibilities," says Tom Byron of LucasArts. LucasArts hasn't revealed much about the gameplay yet, but you might get a flavour from these sneak preview screen-shots.

THE CHARTS

Top 10 selling PC CD-ROMs

- 1 (1) Formula 1 Grand Prix 2 . . . Microprose
- 2 (-) Quake GTI
- 3 (-) Z Warner
- 4 (2) Duke Nukem 3D US.Gold
- 5 (4) Civilisation 2 Microprose
- 6 (3) Theme Park EA
- 7 (5) Championship Manager 2 . EA
- 8 (9) Command and Conquer . Virgin
- 9 (-) Fade to Black EA
- 10 (6) Worms Ocean

ANALYSIS

Quake, after four weeks at number one and locked in an almost neck and neck sales battle with *F1-GP2* is already down to number two – pushed back by Microprose's brilliant racing game. Stunned industry pundits needed to look beyond the PC for the reason for Microprose's late surge. It's all down to the PlayStation and the enormous promotional spend on the Psygnosis racing game *F1*. Window displays and advertising on TV and in magazines has meant an Indian Summer of PC *F1-GP2* sales. Our prediction for next month? *Quake* back on top, where it belongs.

CONTACTS

Anglia Multimedia	. . . . .01603 615151
Casio	. . . . .0181 4509131
Contemporary Games	. . .01454 855 050
Diamond	. . . . .01189 44400
Eidos Interactive/Mission Studios	. . . . .0181 780 2222
Electronic Arts	. . . . .01753 549442
Europress	. . . . .01625 859444
Focus Multimedia	. . . . .01889 570156
Gametek	. . . . .01753 854444
Gremlin Interactive	. . .0114 2753423
Grolier	. . . . .01865 245770
Guildsoft Ltd	. . . . .01752 895100
Intel	. . . . .01793 403000
.Intel	www.intel.com
Koch Media	. . . . .01420 541880
Logitech	. . . . .01344 894300
Microprose	. . . . .01454 893893
Microsoft	. . . . .0345 002000
Oregon	. . . . .07000 673 426
Oxford University Press	01865 267815
PhotoDisc	. . . . .0181 332 2020
Psion	. . . . .0171262 5580
Ransom Publishing	. . .01491 613711
Ricoh	. . . . .01782 717100
SCI	. . . . .0171-585 3308
US Robotics	. . . . .0800 225252

Next Month in PC REVIEW

TOP GEAR

The Big List: our 50 favourite PC gadgets and gizmos

Don't even think about starting your Christmas list until you've read our massive roundup of PC add-ons – from a pound to thousand of pounds there's something to suit every stocking.

DTP Clash of the Titans

A three way punch-up between *PageMaker 7*, *QuarkXpress 3.3* and *PagePlus 4*. Which package should you buy?

The Great Debate

Why all games should sell for a tenner.

PhotoShop 4

Can the best get better? See our in-depth review.

Everything you ever wanted to know about... TELEVISION

Soaps, classic shows, listings – all via Internet and CD-ROM.

Which digital camera?

We group test the best of the new generation of affordable cameras.

How to...

Build your own Quake levels

We give you the software you need and show you how.

Clean your Windows

Isn't it time you sorted out Windows 95?

Make the strangest noises

25 fun tips for sound wave editing.

PHANTASMAGORIA 2

Behind the scenes report on the most shocking PC game ever created.
Plus the we give you the exclusive preview on CD Review.

ON SALE THURSDAY 7 NOVEMBER

Reserve your issue now!

FREEBIES

FREE MULTIMEDIA COLLECTION

In its first appearance in Freebies, Koch Media is giving away the 1996-97 EMME Interaction demo collection. The disc has 70 tryout versions and a truly international flavour, supporting French, German, English and Spanish. For your free disc all you need to do is write with your name and address to:

Emme freebies
Koch Media Ltd
10 Cross and Pillory Lane
Alton
GU34 1HL

FREE GAME DEMOS



Get a *Mummy: Tomb of the Pharaoh* demo for the cost of a stamp.

Mummy: Tomb of the Pharaoh has been developed by the same team as *Frankenstein: Eye of the Monster* and shares the earlier game's classy rendering and live action footage. Rent-a-loon Malcolm McDowell pops up in this most Egyptian of interactive movies across some 50 different puzzles and locations. Interplay has got 50 playable demos of the game to give away – which should give you a chance to sample the game before you buy. Simply send your name and address to:

Pharaoh Freebies
Interplay Productions Ltd
HarleyFord Manor
Harleyford
Henley Road
Marlow
Bucks,
SL7 2DX

FREE QUAKE AND BEDLAM CLOBBER

We pestered GTi for months and finally it came up with one of our hottest giveaways ever. One of ten limited edition highly-sought-after



Fly one of these in *Bedlam* – or alternatively just wear the free T-shirt.

Quake T-shirts can be yours.

Adorned with a rather fetching Nine Inch Nail these promotional shirts are hard to come by – so you'll have to get your entries in early for this one. GTi is also giving away some of the goodies used to plug the most entertaining *Syndicate*-style shooter, *Bedlam* (reviewed last month, out early November). If it's stickers you're after then there are 50 chunky, yellow ones up for grabs... or how about one of 25 T-shirts? The first 10 letters received will win the *Quake* T-shirts, then the next 25 will get a *Bedlam* sticker and T-shirt, while the last 25 will just get a sticker. Write to:

Bedlam Freebies
GTi
The Old Grammar School
248 Marylebone Road
London
NW1 6JT

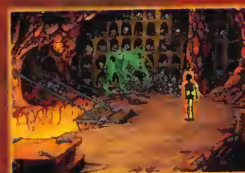
FREE CATZ AND DOGZ

Currently topping the PC utility charts is the friendly desktop pet *Dogz*, soon to be followed by the sequel *Catz*. You get to play with a pooch on your desktop and training, feeding and playing with the little fellah is one of the finest way to kill time – the biggest distraction since Windows 3.1 shipped with *Solitaire*! Anyone who hasn't tried fooling with the software will be glad to know that publisher Mindscape has agreed to give away 200 Adoption Kits. That's 100 *Catz* and 100 *Dogz*. The adoption kits give you the chance to pick your pet, then order and pay for the full setup. To claim your disc climb on to the Mindscape big bow-wow, meow-meow database of fun and write to:

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Illustration by Sarah Jones



When it comes to finding information on your favourite sports using CD-ROM discs and the Internet, we know the score.

Everything you ever wanted to know about...

SPORT

Eric Cantona is the fiery philosopher of English football. While plenty of domestic players seem barely capable of expressing themselves, Cantona celebrates his sport's poetic qualities. And when he's on the ball, his metaphors seem almost real. Sometimes, however, he forgets the aesthetic virtues of football, the game becomes a fight and Eric's twice as thuggish as the rest.

There are other far less philosophical forces at work in sports. A number of sportsmen these days do as much sweating under studio lights as they do under floodlights. The truth is that mathematics rules sports far more than art or poetry. Sport plus television equals money, and Rupert Murdoch knows the equation as well as anyone.

But he's not the only one. When trawling the digital depths for Web sites and CD-ROMs, you soon realise the sum extends beyond television to include nearly all media. Take, for instance, one of the best sports

Web sites around. ESPN SportsZone is run by one of the big US pay TV stations and offers excellent news coverage not only of basketball, baseball, American football and ice hockey, but also international and Premier League football plus a range of other sports. Trouble is, you gotta pay.

You can get the first layer of information free, but larger pictures, video clips or audio commentary files cost you \$4.95 per month, or \$39.95 a year. The site's good, but it's just a taster of what you could get, peppered with ads for Ford cars and Pizza Hut.

Instead, we recommend you head for the CNN Sports site – it's just as good on info, and it's free to boot. Like SportsZone, the CNN site has plenty of American sports news, but is more international in scope. Boxing, cricket, golf, rally racing, rugby, athletics and even sumo wrestling are set in their blocks alongside the US offerings. While there are no videos or sound files to download, Associated Press photos appear

with the main stories, and in most sporting categories a few links are provided. So, when you've read a story about Ian Woosnam entering the Million Dollar Challenge in Johannesburg, you can zip straight off to GolfWeb or PGA Online.

CNN is definitely worth a bookmark in your browser, but chances are you'll want to zoom in on your favourite sport. If football is that sport, and you're not on the Net, you might want to try the *Ultimate Encyclopedia of Soccer*, which covers the history of football at international level. Then again, it's far harder to navigate than it could be, and isn't as encyclopedic as the title suggests. For a finer focus on the British game, you may be better off waiting for a couple of months for VSI's upcoming *Ultimate Soccer* CD-ROM.

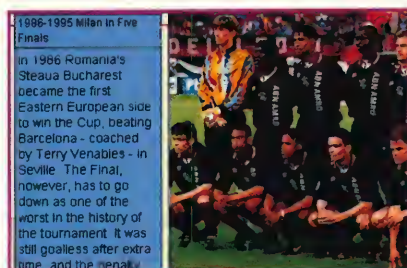
On the Internet, British football is well covered, but no one site seems to offer everything. CarlingNet is the official Web site for the Premiership, with results, news, club links and wretched merchandise. In the ▶



All the Web sites mentioned in this feature can be accessed via PC Review's Web site on FutureNet: <http://www.futurenet.co.uk>. Come and visit.



For fantastic photos and articles on diving, log on to *Underwater Sports World*.



Ultimate Encyclopedia of Soccer: Milan has dominated European club football in the '90s.



Frankie Fredericks beats Olympic gold medallist Donovan Bailey in Tokyo, as reported by CNN Sports. This and other great images are available for free.

CD-ROMs

The Art of Coarse Fishing
£29.99, Koch Media
☎ 01420 541880

Extreme Sports
Available with
PC Review 57.
☎ 01858 468888.

Legends of Tennis
ETBA Philips Media
☎ 0171 911 3030

Martial Arts Explorer
£29.99 Softkey
☎ 0181 246 4000

The Ultimate Encyclopedia of Soccer
£29.99 PNE
☎ 0171 331 3920

The Ultimate Soccer CD-ROM
ETBA VSI
☎ 01628 477007

WEB SITES

ANGLERS ONLINE
<http://www.inetmkt.com/fishpage/index.html>

AUTOWEB
<http://www.icsportsweb.com/PUBLIC/FiENG/MAIN.HTML>

BRITISH ULTIMATE FEDERATION
<http://vol.ra.phy.cam.ac.uk/buf/bufnf.html>

CALGARY STAMPEDE
<http://www.calgary-stampede.ab.ca/rodeo.htm>

CARLINGNET
<http://www.fa-premier.com/home.html>

CNN SPORTS
<http://www.cnn.com/SPORTS/index.html>

CRICINFO
<http://www-uk.cricket.org/>

ESPN SPORTSZONE
<http://ESPN.SportsZone.com/>

GOLFWEB
<http://www.golfweb.com/>

JAX'S CHELSEA WEB PAGE
<http://www.jack.dircon.net/chelsea/>

MANCHESTER UNITED
<http://www.sky.co.uk/sports/manu/>

MARTIAL ARTS RESOURCE SITE
<http://www.middlebury.edu/~jswan/martial.arts/ma.html>

MENTAL PRACTICE FORMULA
<http://www.idworks.com/ungelerider/teasers.htm>

PGA ONLINE
<http://www1.pgaoonline.com/>

RUGBY NEWS TODAY
<http://205.238.6.130/RNT/>

SKYDIVE ARCHIVE
<http://www.afn.org/skydive/>

TENNIS MAGAZINE ONLINE
<http://www.tennis.com/>

THIS IS ANFIELD
<http://www.connect.org.uk/anfield/>

TROUT AND SALMON
<http://www.middlebury.edu/~jswan/martial.arts/ma.html>

NEWSGROUPS

Every sport you can imagine is discussed and fretted over in some way in rec.sport and alt.sport newsgroup domains. Join in at your peril.

High flying, hard hitting thrills



Ice Hockey is a super-fast, rock-'em-sock-'em sport growing in popularity. The world's top league is the NHL which includes classic teams like the Toronto Maple Leafs and Detroit Red Wings, plus post-refrigeration age ones, like the LA Kings and the Florida Panthers. See NHL Open Net.



You want danger? Then get the *Extreme Sports CD*, distributed with the July issue of *PC Review* (call 01858 468888). This disc glamorises skiing, surfing, skateboarding, BASE jumping, sky diving and many more extremely dangerous sporting pastimes. It's Pepsi Max without being wet.



While life-threatening sports like bungee jumping are a new age thrill, rodeo is a good ol' time rural sport. Some would barely classify it as a sport, but it's very rough and very competitive. For steer wrestling, bareback bull riding, calfroping and saddle-broncing, see the Calgary Stampede Web site.



If you hit anything in this sport, make sure it's not the ground. Learner's tips and FAQs help you with your technique along with sections on safety and equipment. Related sports like BASE jumping and paraskiing get a look in, and there's a history of parachuting. Skydive Archive is the place.

► archive section you'll find a full but necessarily short history of the Premier League, going all the way back to 1992.

This Is Anfield is probably the best fan-made Web site in football. The ambition of TIA is to compile match reports for all first team games going all the way back to 1892. There are lots of gaps to fill, but all the current information is there. You can, for instance, read a blow-by-blow account of Kenny Dalglish's departure from the club on February 23, 1991. There are mug shots and vital statistics on today's players occupy and pictures of stars past and present.

Jax's Chelsea Web Page is nearly as good, while Manchester United boasts a hip'n'happening official site. Here you'll find red hot news and results, plus match round-ups in audioclip form from the radio. In addition, each month there's an interview with a player. "Who did you support during Euro 96?" Eric Cantona is asked. "I supported England of course," comes his surprising reply. "I was very sad when they lost." Again, however, there's a money spinner. To read the full interview you have to cough up £1.95 for the *Man United Magazine*.

Alien as it may seem to armchair footy supporters and the swindling monstrosities

Formula One racing fans can flag down AutoWeb's superb on-line coverage of the sport.



within every club that wait to devour them, there is another side to sport – it's called participation. While some see sport as entertainment, others use it for self fulfilment. You may, for instance, seek the blustery waters of the *Interactive Sailing CD-ROM* with its video tutorials and regatta competitions. Equally, you might want to charge your chi energy and learn about a dozen Oriental fighting forms with the *Martial Arts Explorer CD*.

Further information about martial arts can also be found on the Web. At the *Martial Arts Resource Page*, you can catch up on Krabi Karabong, the Thai weapon art, for instance. Better known arts like Karate, Aikido, Judo and Jujutsu are well-covered. Links to pages on specific forms are available in huge quantities.

No matter your sport you'll probably be aware of the need for the right mental attitude in practice and competition. So see the *Mental Practice Formula* site to get your mind in gear.

While it's easy to see how all this mental tuning might be used in tennis, golf or even boxing, it's hard to see how



handy visualising your opponent would be when you're out fishing. Better preparation can be netted at the *Trout & Salmon* magazine Web site. New flies are reviewed, there's a tip of the month and, best of all, a guide to top locations to fish in England, Scotland and Wales. Unfortunately, the site is not always up to date. Alternatively, see our review of the *Art of Coarse Fishing* on page 79. It's a great fishing CD.

Tennis is superbly served at *Tennis Magazine Online*. While many enthusiast pages tell you about the pros, this one helps you improve your game. In *TMO's Instruction Zone* there's a tip of the week, usually based on observations from a top tournament. "If you can rush an opponent who loves to control points by hitting on the rise – in effect, give him a dose of his own medicine – you can beat him," reads one recent entry. "The key is to establish your own good court position on or inside the baseline."

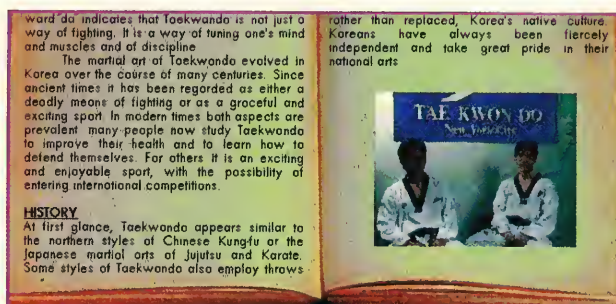
Tennis fans not on the Net may wish to wait a month for the *Legends of Tennis* CD-ROM due to be released by Philips Media. The disc promises to idolise the 20th Century's top players.

Lastly, how could we forget Formula One racing and the ongoing struggle of Damon Hill against all things automotive and otherwise? The best F1 site we've seen is *AutoWeb*.

Nws is a click away, along with first hand accounts of races by Hill and Villeneuve. A great pitstop for the engine enthusiast. (GW)



The formidable Michael Chang at full power.



Martial Arts Explorer shows you moves from 12 martial arts using video, and also includes a philosophy section. But to go into any real depth, you may be better off looking on the Web.



Chelsea fans are invited to look at pictures of fellow Chelsea fans at Jax's Chelsea Web page. Funny how they all look alike.

"Shhhh! He really thinks he's playing tennis..."

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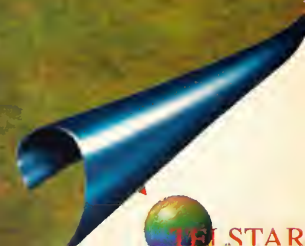
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0	Double Faults	0
1	Games	0
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Egyptians in jumpsuits? Welcome to the way-out-of-this-world of Sand Warriors.



Check out your weapons with a quick turn to the left or the right. (Or by seeing what's annihilating your enemies.)



Devastated buildings in Sand Warriors collapse with solid, domino-like precision. Just like in real life, in fact.

THE MYSTERIOUS MATHS OF THE PYRAMIDS

It takes some hefty maths to shunt polygons about like the Sand Warriors 3D engine, but the ancient Egyptians might have understood more of the mathematics than you'd first think. The base is a square, with sides of 248 metres. The original height was 148 metres. In ancient Egyptian cubits, we get a base area of 366 - the number of days in a leap year. The height multiplied by ten to the nine gives the distance between the earth and the sun, while the base divided by the width of one of the stones gives 365. The perimeter of the base is 931 metres, which if you divide by twice the height gives you number pi. And there's more...

MASSIVE!

Work in progress: Sand Warriors

We thought the Great Pyramid at Giza was a good effort, until we saw the sweat that's gone into making Sand Warriors, the new 3D blaster from Astros...

The ancient Egyptians, argue certain loony-lensed prophets, couldn't have created the pyramids. After all, everyone knows a sand castle should be one bucket high and decorated with cockle-shells.

These same people, waving a copy of Von Daniken in the air, scream that only alien spaceships could have positioned the enormous sand blocks, and that similar structures in Central America hint at circumnavigation impossible in the days before backpacking. Unfortunately, they also hold that Stonehenge was a cosmic wristwatch and that Jesus was a prankster from Alpha

Centauri. Still, *Sand Warriors*, the new 3D blaster from Astros Software, uses this frothy notion as the basis for a stunning new game. Set in 6225bc, two rival families on the dying planet Tawy battle for the right to colonise Earth. Starting as a lowly ranking pilot of Imperial House Horus, you employ an array of ancient technologies to give the rival House Set hell, gradually rising to pilot the ships of the gods.

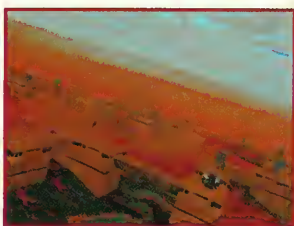
This melding of the historical Egyptian setting with

a futuristic civilisations is impressive. Twisting through a phalanx of industrial cooling towers, Tutenkhamen would be somehow feel right at home by your side. It works deceptively well, like some confident Hollywood pitch: "Yeah, it'll be *War and Peace* meets *Star Wars*, but set amongst the bulrushes of the Nile." But surely it first seemed a risky scenario?

Peter Karboulonis, producer at Astros, takes up



One of Sand Warriors' most impressive feats is the enormous gunships that ply the skies. You can even fly into some of them, if you can get close enough...



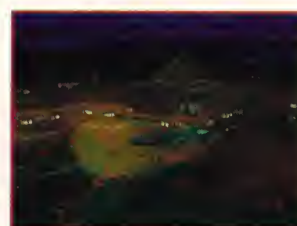
By day, the Tawy's cities are a geometrically convoluted maze of towers and monuments.



By night, the Tawy's cities are pretty much the same, but with pretty lights.



Scratch one, bogey. No, no! Not on your sleeve! The terminology can be a little confusing.



Many of the craft have searchlights, enabling them to pick out ground targets in the darkness.



How to build yourself a Biped



First, construct your basic wire model. 3D Studio is perfect for this.



Next, apply some interesting shading to your surfaces.



Finally, you're ready to apply colour to your beastie. Here's an amalgamation Astros prepared earlier.



Peter Karboulinis, programmer and co-director of Astros, used to write AI programs at Manchester Polytechnic, but he prefers writing games: "If you like it, it's a very good way of making money."

the story. "We actually considered doing three themes," he says. "One choice was to go Egyptian, another was to go Greek, and another was to go Samurai." Egypt won out because it offered an advanced civilisation, and a suitably hostile temperament. "The Samurais weren't as organised in their ways as the Egyptians, nor did they have the monuments. And the Ancient Greeks are more well-known as philosophers."

From the very start, however, the team at Astros, whose previous credits include *Retribution*, knew they wanted another crack at a flight game. So once everyone had agreed on the Egyptian theme, Peter and his brother George began work on the 3D engine. Meanwhile, Gremlin's Paul Green fleshed out the game world. He gave it a history and geography, deciding just what the Pharaohs would have done with a Rekhnire Cluster Missile.

Sneaking in a pyramid

"Paul at Gremlin was responsible for making the world believable," says Peter. "He's very good at that. The storyline of the game actually parallels Egyptian politics." The Astros designers were now free to let their minds run riot, creating Egyptian craft transporters, teleporters, and huge cities that seem to grow from the sides of the mountains, as well as oil-rigs, roads and the other essentials of an advanced culture. Cheekily, designer Carl Adesile couldn't resist sneaking in some pyramids and, of course, a sphinx. Paul Green returned as the project neared completion. "We got him back to do the mission objectives, to make them more atmospheric."

Peter says that the hands-on relationship with the publisher has worked well, and provided the extra muscle needed to tackle a project of this scale (Gremlin was also

responsible for the game's speech and music). Astros has four full-time employees and Peter admits they've been stretched. "At the moment we are overworked, basically. You cannot think of success and failure, you just work very hard. In terms of hours, over the last couple of months we've done about 70 to 80 hours a week. Eventually you burn out."

One criticism of *Retribution* was its game-play, something Astros focused on getting right from the start with *Sand Warriors*. Unlike its previous outing, in *Sand Warriors* the skies are alive with craft, both hostile and friendly. It's a war out there; you can even play the cavalry en route to your own mission targets. Your ship is a cross between a helicopter and a jet, so you can zip over the frontlines before strafing right and hovering above a convoy of tanks. And then there are the special manoeuvres.

"You have manoeuvres that circle around the target while you pick of the targets, manoeuvres to lift you away from trouble, and ones that will skim the ground automatically," explains Peter. They're another example of the polish that's gone into providing unique gameplay. Other nice touches are the visible weapons outside your cockpit, which you can watch receding and snapping into position, the variety of cockpit views (including a B-52 style bomb-bay view) and night missions, in which searchlights skim the landscape for targets.

Those 80-hour weeks are almost over. Games development is so often a dispiriting experience, an 18-month odyssey from

creative inspiration to all-night debugging. Is Peter proud of the finished game? "I think so, yes. We should be!" he says. "People expect more with every game and you have to satisfy them. They look at the finished game, not at the months of work before."

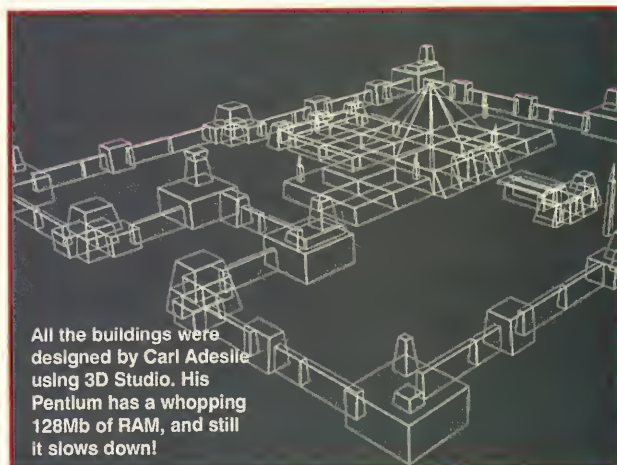
But that's their right as consumers? "Oh yes, indeed," Peter admits. "That's why we were so committed to providing the best we can and hopefully the best there is." He

claims the game will stand out because of what he terms

Total Quality.

"Quality in every aspect: design, execution, theme, graphics, 3D engine, rendered animations, sound." (OB)

Sand Warrior will be published by Gremlin Interactive and should go on sale in November 1996.



All the buildings were designed by Carl Adesile using 3D Studio. His Pentium has a whopping 128Mb of RAM, and still it slows down!

COMING SOON

Look out for our exclusive playable demo of *Sand Warriors* in next month's PC Review.

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dangerous and thrilling when you challenge others through network, modem or via direct connect.

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NOVA

LOGIC™



A game with real depth – the race tracks of Atlantis provide one of the more unlikely venues for a vehicular face-off in Merit's Oddball Engines.



The camera pans right during the same race. This is just one of the many cool effects.



The same track from yet another viewpoint complete with themed objects.

WACKED OUT

With such OTT characters and similarly bizarre range of vehicles, there's a strong hint of Wacky Races about Oddball Engines. Naturally, the Merit team have their favourites. Merit's Michael Cairns: "Well, Ian – the designer and core programmer – likes Pat Pending, the guy with all the gadgets. That's programmers for you, I suppose. I've always had soft spot for Penelope Pitstop. Sex on legs, for a cartoon anyway!"

WACKY?

Work in progress: Oddball Engines

Tex Avery, guns and Micro Machines-style racing collide in Merit's game of weird wheels.

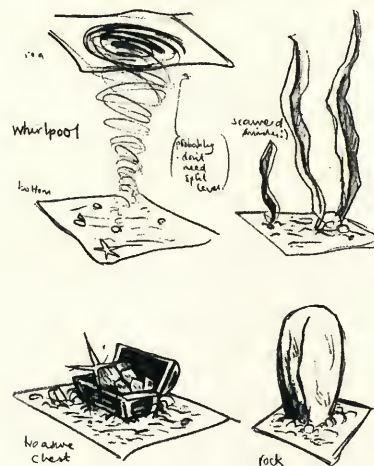
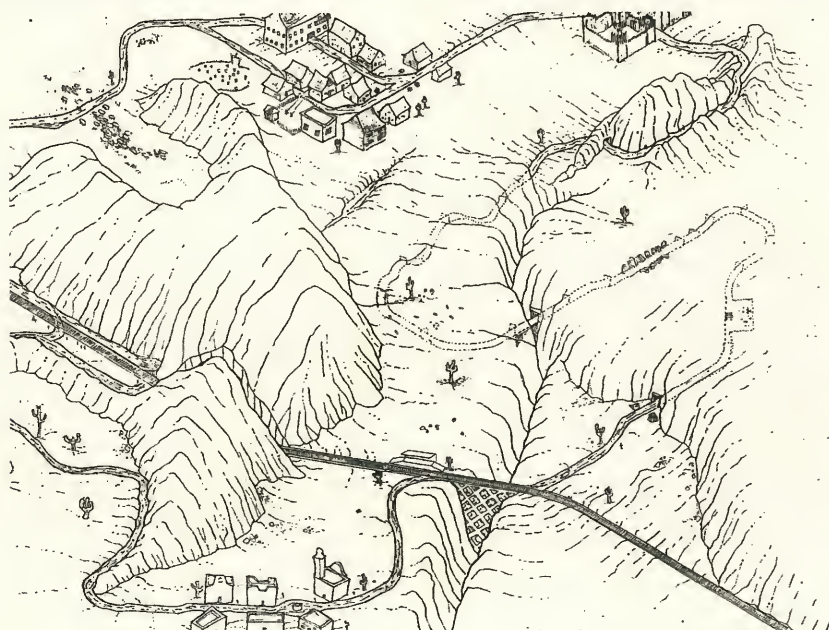
Some games are destined to create new styles, others receive acclaim for pushing a much-loved genre that bit further. It's the latter fate that'll probably befall *Oddball Engines*, the hugely promising race'n'shoot title from the Gateshead offices of Merit Studios. Naturally there's a debt to *Micro Machines* paid here, but as Project Manager Michael Cairns explains: "For a start we've got weapons. I know *Micro*

Machines Military is coming out, but that's not a racing game, it's more combat orientated. We've got a lot of interaction with the environment, more hazards and so on."

Of course, that's not all that will set it apart from the Codemasters classic. "*Oddball Engines* has a great sense of humour – it's very cartoony without being 'cute', like *Tex Avery* or *Ren & Stimpy*," continues Cairns. "And it's in 3D, but the 3D

isn't just a frill. The tracks have jumps, flyovers and are based on multiple levels."

It's that use of real 3D graphics which immediately makes *Oddball Engines* look interesting. "The game world is entirely polygon generated. It's totally three dimensional," says Michael. "Because of this we can view the game from any angle at almost any distance. We were considering having multiple viewpoints during play, but ▶



▲ The designs for 3D building blocks make it just like using an infinitely varied Lego set.

◀ Levels are put together from rough drawings like this one.



BUILDING CHARACTER



An early idea for an explorer character is sketched out, complete with backpack, hunting gun and monocle. Beside him, his vehicle: a Landrover with the suggestion that it could become a monster truck.



A little weight is added, more detail sketched in, and a more definite, recognisable look given.



Et viola – Colonel Smythe-Baggshotte-Smythe in the flesh. If only his gun had as many barrels as his name.

in the end decided to restrict it to a computer controlled view. We will, however, probably use a 'roving camera' for the end-of race sequences and possibly the replays."

The landscape is actually constructed from 3D building blocks – meshes with texture maps. It means that the Windows 95 version will be able to operate in a variety of resolutions and in millions of colours. It also means the Merit artists can seamlessly build up landscapes from what they describe as a 'virtual Lego kit'. Even the in-game cars are polygon rather than sprite-based. "I'd say there were 150 polygons per car, plus 1000 on-screen for the background. So, say around 1500 polygons for a typical screen, but that's only an estimate. We may change this, depending on how fast the game runs, but at the moment there's no problem."

Smash the bridge

As the landscape is rendered in real-time the tracks can be changed during play. "We've a number of interactive backgrounds," says Michael. "For example, there are bridge supports you can smash into and cause the bridge to collapse. So, if your opponent's up there his car will fall, or if he's behind you he might have his path blocked by the falling debris. It makes it possible to play in a very honourable, gentlemanly way, or cheat and make life Hell for your opponent."

All the clever visual stuff is the icing on the cake, but *Oddball Engines* is a racing

game at heart, a genre which Merit knows works best as a social affair. Hence, up to four players can compete on one machine or over a network. In the latter mode each player gets their own display centered on their car, while the one machine, four player mode makes use of camera zooming to keep all cars visible. A catch-up method will also be used for those who really lag behind, though. Another possible multi-player option is an Internet-play mode. "Programming-wise, there's no problem," reckons Michael. "The only concern is if we'll be able to pass the data over the Internet quick enough. We've got a few tests to run yet!"

To further increase that competitive element, combat will also feature heavily in the game. "Nothing's cast in stone yet," enthuses Michael, "but we've got the usual – missiles, oil slicks – plus some brilliant ones I don't want to talk about, in case somebody reads this and nicks them!" More firmly designed are the various level types and characters who get to race around them. Old favourites such as the Wild West, The Arctic and Atlantis will be included in the six level types (which may be expanded to eight), each of which will feature 8 individual tracks. A track editor is also planned for inclusion, further extending the longevity.

It's the in-game characters which really take the biscuit, though. Rarely have so many bad puns, gags and stereotypes been collected in one place. Prepare for Buck

Thruster, pilot of the Thruster 1 vehicle. Or how about Al Machino in his mob mobile? Or Robert De Zero, the taxi driver – surely the worst pun ever to feature in a computer game? "Oh I don't know," says Michael. "There's also an ice cream man called Juan Cornetto! And our last game, Bud Tucker, had a megalomaniac called Dick Tate."

Action Stan the tank man

"As with the level themes we looked for characters people would immediately associate with. For example, it's fairly obvious that Action Stan, who drives a tank, is going to be slower than Ace in his dragster. We wanted the game to be very character-driven, so it's not just 'Car 1' versus 'Car 2'. It's like if you watch people playing *Street Fighter 2* – they tend to stick to the characters they like, and it's not just because of the special moves. It's because people like the characters themselves."

It would have been possible for Merit to go for a cartoon licence, but the company saw the restrictions of such a deal and the negative image of licences in general outweighed the benefits of a brand name. It's not something which *Oddball Engines* should need, either. For, while the in-game characters are suitably daft, it's that combination of frantic racing and marvelous 3D visuals which give it the potential to become the best overhead racer yet. That and the inclusion of Mr De Zero, of course. (MR)



Less a pun, more a comment on all those games with scantily clad women (like, er, this one). Behold Cliché Woman!



Robert De Zero, taxi driver and pun-heavy character. "An all round good fella from the mean streets of New York..." Ouch!



Al Machino and his mobmobile. It's a getaway car, so good acceleration and a high top speed give it an edge.



"It's a killer rush"

DAWN OF DARKNESS

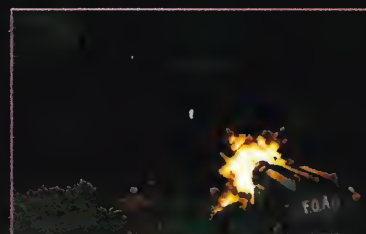


ocean

18

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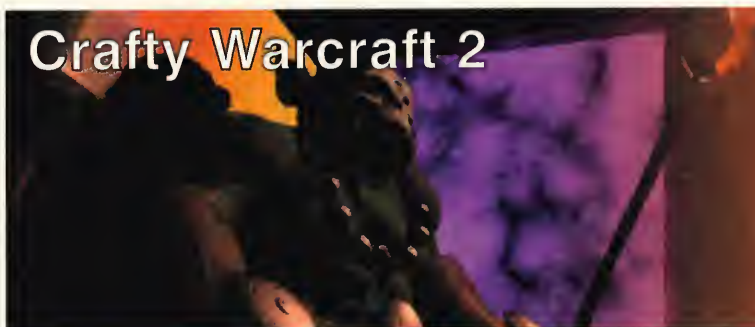
There are three levels to every games collection. Bulking up the shelves are the okay games, the ones you play in your free time. Then, stacked like pancakes around your PC, are the pretty good games that you play in your work time. And finally there are the Ultimate Games, the games you

play all the time. Like seminal albums and blockbusting films, the Ultimate Games define your life: the summer you played *Doom 2* all the time, the winter it didn't stop raining and you virtually lived in *Sim City*.

Frankly, buying one of these games is just the beginning. They're your babies – you

wouldn't let your kid go to school without the latest *Independence Day* lunchbox, would you? Equally, nurture these games and they'll blossom into the finest gaming experiences of your life. We consider *Quake*, *Warcraft 2*, *Virtua Fighter* and *F1GP2*, and tell you how to pamper them – and yourself, naturally.

Crafty Warcraft 2

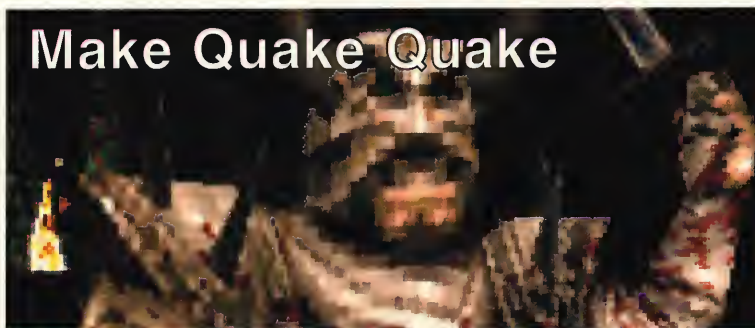


Warcraft is a war waged with precision.

You're like an old general, bunkered a safe distance away, pushing lead models about with pointy sticks – except your models are sprites and your stick is a mouse. Trampling over the feeble opposition is going to take a while, so ergonomics are vital.

We chose the MouseMan 96 from Logitech. Not cheap, but pretty damn perfect. Widest at the front, the buttons are big enough to prevent you accidentally sending

Make Quake Quake



To get the best out of *Quake*, you must play it deathmatch. Haven't got an office full of networked PCs? Then seek salvation in the Internet. To get on-line you'll need a modem (and a suitable Internet account). Alternatively, you can use a modem to dial up a modem-equipped mate.

The Hayes Accura 288 is a fine model. Although its 28,800 bps transfer rate is faster than most Internet connections, it's handy against another fast modem and it future-

F1 GP2 Overdrive



Perfect. *F1GP2* could only be bettered by getting your hands wrapped around a proper steering wheel and slamming proper pedals to the metal. And funnily enough, canny manufacturers have realised this too, which is where the GP500 comes in.

The GP500, from RS Simulations, is a mighty lump of hard driving. Its solid, rubberised steering wheel is mounted on a real metal shaft, while tucked in behind the wheel are the gear paddles (just as you'd find

Fight Virtua Fighter Right



If you own *Virtua Fighter*, you've probably flaunted it before your envious console-owning mates already. But at least every console boasts a decent joypad. If you're still trying to play *Virtua Fighter* with your PC's keyboard, you're not playing at all.

We advise you to take a look at the new Microsoft joypad. Already leaders in the joystick market, Microsoft has shown they're serious about the burgeoning joypad racket (at a recent trade show in London, they were



Three Indispensables for any gamer



An anti-glare screen

A nifty filter that reduce reflects and eliminates UV emission. They're compulsory in some countries.

Anti-glare screens, around £14.99, PC Line, various high street stores.

A pizza

A true ultimate gamer would rather die than interrupt a *Warcraft 2* session for sustenance. But if you must, an American Hot, with extra green peppers, hits all the major food groups. American Hot with extra peppers, £7, various high street stores.



The best things in life come in small, medium and large boxes.



PC Review

Our Player Tips and Solutions aim to give you the edge, first. Our experts have cracked all the big titles and are happy to share their secrets with you. Our readers are another great source of tips. You won't really see your Ultimate Game at its best if you get stuck halfway through it, will you? *PC Review*, £4.99, all good newsagents.

WHAT ABOUT VIRTUAL REALITY?

Yeah, what about it? We've tried all the home PC virtual reality systems and have come to the conclusion that if you really want games to be immersive, what you actually need is a big monitor, some big speakers and a dark room. You heard it here first, right? If you really must experience the world of VR then why not enter our compo on page 61 to win a pair of *SimulEyes* VR glasses – a nifty piece of kit which overcomes the most common failing of most VR headsets... their weight.

your mages into a horde of blood-lusting ogres. It has three buttons – the middle one of which is programmable – and these are ergonomically styled.

Like *Quake*, *Warcraft 2* is best enjoyed against a human, best savoured by cackling across the living room. So our second recommendation is a null



MouseMan 96, £40, Logitech, 01344 894300. The MouseMan 96 handles well.

modem cable, with which you can plug your PC into your mate's PC. No phone drills, net-lag or fuss.

The setup routines for network play are pretty much self-explanatory. In fact the most complicated part of the whole process is working out how to get your PC across town.



Null modem cable, around £20, various high street stores.

A null modem – looks aren't its strongest point.

SO, YOU LIKE GADGETS?

Look out for the next issue of *PC Review* when we present our kit extravaganza... 50 gadgets and gizmos you can connect to your PC.

proofs you against later Internet upgrades. Most importantly, Hayes defines the modem standards that other manufacturers must follow. With the Hayes

Spaceorb 360, £85, Oregon, 07000 673426. The Spaceorb 360 is a revolution in game controls.



range much more reasonably priced these days, this compatibility guarantee suddenly seems like a real bargain.

Now for a real scoop. The Spaceorb 360 is too new to buy, but we've got one in the office. It enables true 360° control in every direction: the built-in ball is your head, pushing or pulling it moves you that way, turning it rotates you. The orb is pressure sensitive;

touch rather than motion moves you.

Hayes Accura 288, £165, Hayes, 01252 775544. The Hayes modem matches BTs Response 30 answerphone.



on a real Formula One vehicle). Down below, the pedals are rigid, offering a good level of resistance, and because they're located in the centre of the mount they're very stable. Basically, once you've played *F1GP2* with the GP500, you'll forever look at your keyboard with the disdain it deserves.

F1GP2 can benefit from the null modem we recommended for *Warcraft 2*, but the AI is so good you probably don't need it. A better investment, short of a polycarbonate

car shell, might be a tub of Swarfega, to introduce a certain grubby workshop air into the proceedings (and to cleanse your sweaty hands).

GP500 wheels and pedals, £300, RS Simulations, 01275 474550. The GP500 will satisfy the most relentless techno-fetishist.



handing them out by the box-full). It's quite a beautiful model, with an organic design reminiscent of the new, organic Nintendo 64 pad.

Microsoft Joypad, £39.99, Microsoft, 0345 002000. The new Microsoft joypad should be in the stores soon.



Although *Virtua Fighter* needs only three buttons, the six buttons don't hurt, and best of all multiple Microsoft joypads can be chained together.

If you're after even greater kicks, you could consider the Aura Interactor. To be honest though, its warm rubs and fuzzy vibrations can only roughly approximate the flying boot of a trained killer. Look, just how

realistic do you want your violent brawling to be?

The vibrating Aura Interactor is delivered in a brown paper bag. Aura Interactor, £69.99, Aura, 0161 973 0505.



THE MAIL

Freedom of speech! As long as you watch what you say, of course. Here's the pick of this month's post, and what we feel about it...

EXPIRED

I bought the July issue of *PC Review* in New Zealand at the end of September. It is always late here. I bought it for the promise of trying *2D CelAnimator* which unfortunately has already expired. It is not clearly marked on the cover that there is an expiry date of 1 August 1996! If so I would not have paid NZ\$18.95 for it.

Is it possible to get another demo copy to try out? If that is not possible, may I recommend that in future your magazine should label clearly the expiry date of all software like this. Demo software usually gives you at least a few days from first installation.
Paul Yeo, New Zealand

We'll watch our labelling more and do our best to bring you a new try-out version of *2D CelAnimator* next month – when we should also be able to bring you our delayed review of the finished version. Soooo in New Zealand you should see that by... erm... the end of the century?

BAD APPLES

The days of unlimited freedom of speech on the Internet are going to be

over soon because the villains of this world have succeeded in spoiling the purpose of the Internet. In my view it was always meant as a tool to views and thoughts with people from all over the world without any boundaries. Should there also be room for extremely negative and potentially harmful views that are not accepted outside "cyberspace"? I don't think so.

Why do I have to put up with nauseating expressions of racism in any newsgroup when in "real life" those who spread racist material are prosecuted? The greatest outrage of all is the fact that the Internet is being used as a medium to spread child pornography. Trying to stop this has nothing to do with censorship but is an act of civilisation and decency!
Karen Bults, via the Internet

Yup. It's the usual bad apples spoiling the crop problem. The difficulty with censorship is who draws the lines and if something is cut out for 'our own good' then the soap box rhetoric of free speech is certain to be invoked. Check out our special report on page 8 for the latest on this thorny topic.

BACK IN TIME

Is it possible to order back issues of *PC Review* from June and July 1996?
Peter Asard, via the Internet

Give our subs people a call on 01858 468888.

MISSING IN ACTION

What has happened to some of the games that have been reviewed but never actually released? Can you shed any light on *Daggerfall* (*Elder Scrolls 2*) or *Battlecruiser 3000AD*?

Graham Bradley,
Plymouth

Games slip for all sorts of reasons. Often commercial pressures force programmers to accept deadlines they can't meet, then at the last minute the finished games just don't turn up! *Daggerfall 2* is in fact finished – check out our lead review this month – and *Battlecruiser* was finished but held over for Christmas. More news on that title next month.



If you have a point to make, write it down. Send it to us at the address on the left, or e-mail us on pcreview@futurenet.co.uk.

Letter of the month

THE QUAKE DEBATE

I am writing to complain about the rating that you gave *Quake* in your magazine. 10/10 is an impossible mark: no game is perfect. Also *Quake* is nowhere near being perfect, never mind being close. For a start, the weapons are totally rubbish and the level design is not particularly imaginative. All we get are the usual dark corridors of death and the odd castle. It's not good enough! The power up items are not much cop, the quad damage being the only good one. Movement underwater is a nightmare to control. And since when is all water a dank, green colour?

All these criticisms apply to both single and multiplayer *Quake*. Personally, I think that *Duke Nukem 3D* is a far superior game in nearly all respects – *Quake* had its true 3D graphics, of course. I'd should take a leaf out of 3D Realms' book and create a game with good gameplay.

Now for my second complaint. I believe that one of your supposed policies is to review only finished games. Well, you have made a couple of

boobs in that department! First of all I remember you reviewed *Z* at least a year ago but it has only arrived in the last couple of months and you have reviewed it again. I could forgive you for this if, after your previous review, you had included a note in the next issue apologising to people and telling them of the new expected release date, but you did not. You repeated this mistake with *Duke Nukem 3D* and this time you changed the mark that it got from 9 to 8. Oops! Again, you gave no explanation.

After all this griping and groaning just let me say that I am not a grouch and that apart from these errors and perhaps a few other small ones I have forgotten to say that you produce a very good magazine – the only PC mag I buy regularly. I have only missed one issue since November 1991.

T A Glossop, via the Internet



This chap wasn't too chuffed with T A Glossop's comments about his levels

The *Quake* mark was a controversial one but we stand by it. *Quake* got a ten because it's the standard by which we'll be judging any new 3D action games. If you don't like *Quake* as it stands, then you should just regard it as a clothes-horse for any number of patches and add-ons. We'll bring you the best of them every month with our *Quake Collection*.

Z may have been previewed before its release date, but *PC Review* was one of the only titles that held off until the code was finalised before passing a verdict. As for *Duke Nukem 3D*, check the review again: the original was a write-up of the shareware, while the review in *PCR 57* was based on the full game. We're not getting drawn into the *Duke vs Quake* debate, only to say that since the big *Q* arrived, *Duke* hasn't been played once in the *PCR* office.

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BIOFORGE

With this wonderful 3D graphic adventure you get to control Prisoner AP127, a man who's had his limbs cut off and replaced with robotic cybernetic limbs. Yes, he's a half-ton living flesh-and-steel cyborg. In this futuristic world of violence and lots of metal (oh yes, metal) you'll come up against some deadly enemies including, huge reptiles and cybernetically altered giant scorpions. Be prepared to get your hands dirty, because you're going to have to fight them bare fisted.

MAGIC CARPET

At least one person in the PC Review office has picked Bullfrog's *Magic Carpet* as their favourite PC game ever. Here you get to fly around a 3D landscape collecting globules of magical energy and learning new spells. But you're not alone out there. Deadly wyrms, trolls, killer bees and awesomely powerful warlocks are just hankering to kill you and absorb your own magical power. If the 30 levels of action aren't enough for you, there's also a deadly network mode so you can play against your friends.



FIFA International Soccer

With its isometric viewpoint *FIFA International Soccer* is partly accredited with kicking off the whole footy-in-3D thing on the PC. A highly playable game, this one lets you pick your team from the top international sides play either a single match or an entire cup challenge. Will it be Brazil, Camerouns or Wales? You'll have to wait for the referee's whistle.

NHL Hockey 95

The National Hockey League is the most competitive, hardest hitting professional ice hockey league in the world. Hence, it's the league you'll want to be playing in. *NHL Hockey 95* gives you just that chance. All the 94/95 season teams are in there, filled with real players with their own statistics. Play a single game, All-star game or take on an 84-game full season challenge. Can you win the Stanley Cup?



LITTLE BIG ADVENTURE

This is the big adventure that takes place in a world full of little people. Twinsen, the character you get to control, is being held in solitary confinement by the world's evil dictator. You have to help him escape into a world of repression and squalor to take on the system. If he succeeds it's freedom and happiness for all. Should he fail, however, it'll be a painful death. That's *Little Big Adventure*.

SYNDICATE

Gone is the Community Charge. The Government? A distant memory. In *Syndicate* there are no such trivialities. The powers that be in this game are criminal megacorporations and you're the head of one of them. Your goal is world domination and to do this you must recruit agents, upgrade their bodies with cybernetic enhancements and dish out large doses of ultraviolence on your enemies. A great game.



THEME PARK

The happy-go-luckiest of business simulations ever, *Theme Park* puts you in charge of your own fun park. Starting off with a measly bouncy castle, an ice cream stall, some underpaid men in chicken suits and the right accumen, you may soon be constructing huge roller-coasters and racing car rides. Make the right decisions and you could even end up with a chain of parks around the world. Like Disney.

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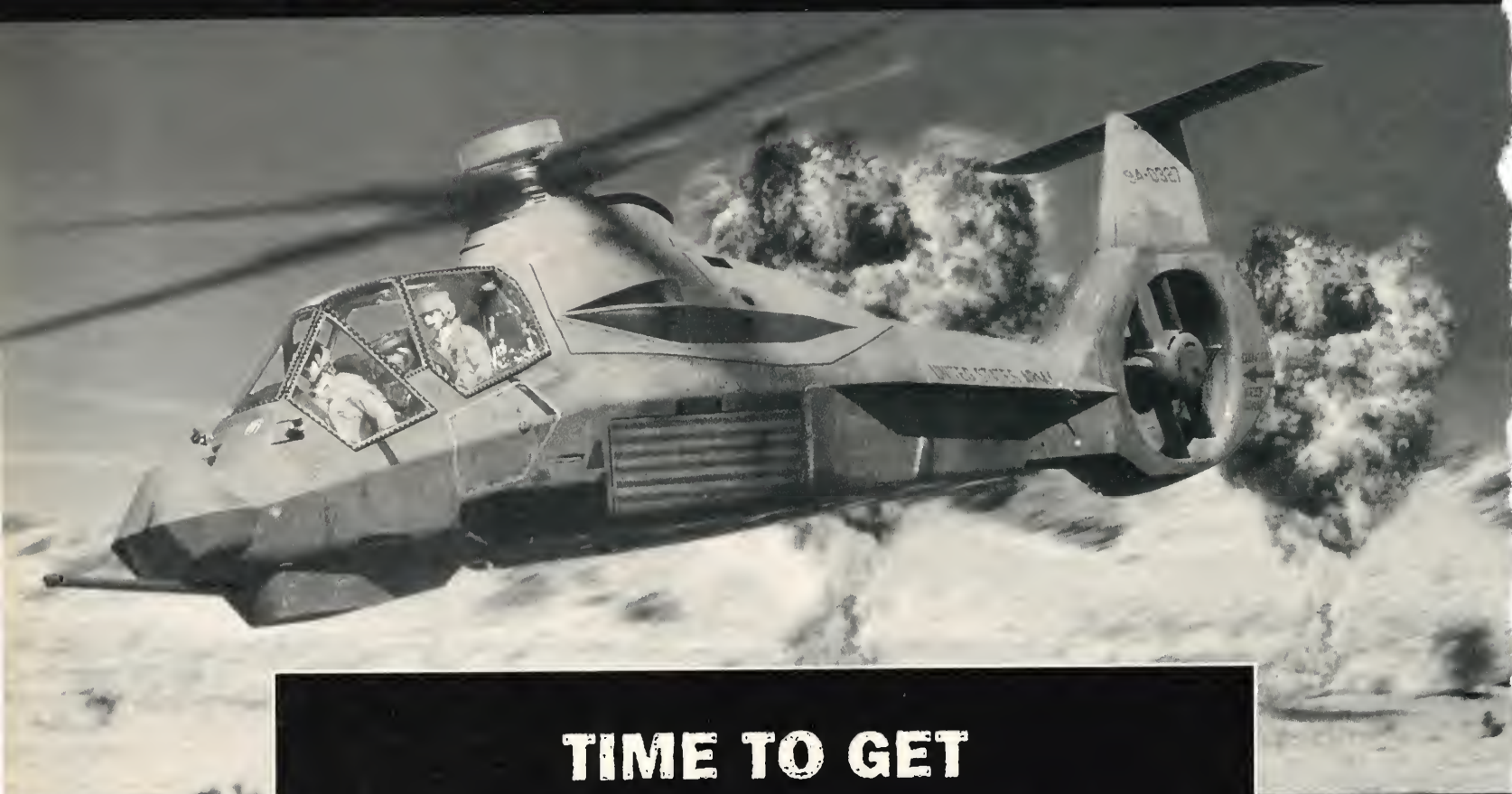
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PLAYER



Welcome once again to Player. As you can already see our lead game this month is *Daggerfall* – but we've got plenty more surprises in store for you. Action fans should turn to page 40 for the debut game from Criterion Studios, *Scorched Planet*. It brings the classic coin op Defender bang up to date with some stunning visuals.

As good to look at, but truly dreadful to play, is *Neverhood*, reviewed on page 36. We'd expected more from Spielberg's Dreamworks and their debut game.

Pinch-pennies will be glad to see our new bumped-up budget section. The bargains start on page 58. Enjoy!

Mark Ramshaw

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DAGGERFALL

THE ELDER SCROLLS 2

With its first Elder Scrolls adventure, Bethesda proved that big is beautiful, but often lacking in detail. Can it get the big picture with this latest 3D role-player?

There's big, really big, bloody huge, and – somehow beyond that – there's *Daggerfall*. You may think you've played ambitious computer games before, but until you've travelled from one end of the this role-playing game's private universe to the other, you haven't even lived. Unless, that is, you've already played its equally roomy prequel, *The Elder Scrolls: Arena*. Origin might claim to create worlds, but it's Bethesda that actually attempts to go the whole, stupidly ambitious hog.

With *Arena* the flaws of such a grand design were obvious. It's all very well painting a big picture, but unless you have the time and ability to fill in the fine detail then you're left with an unfinished sketch. *Arena* was nice; it was simply massive and utterly versatile. But wandering around its game-world felt like visiting almost-complete work-in-progress locations. With *Daggerfall* we find Bethesda once again attempting to tell a vast tale, but this time with those gaps filled in. No small task when you're talking about a few million square miles of fantasy world.

First impressions count

But the grandiosity of *Daggerfall* isn't immediately obvious. First impressions are of

a tight, rather familiar and unremarkable game. Bethesda's xNgin 3D system is used here, but it's not the latest SVGA incarnation. So, although there are some cute lighting effects, and while it's possible to look and move up, down and all around, the view of the world is a distinctly blocky one. Even the other characters are flat sprites rather than cool polygonal creations. *Quake* and all those other SVGA-capable 3D shooters have shown what the PC can do, so why should roleplayers be given second best? Bethesda's official answer is that the original game was conceived in this low resolution, so it would have taken several more months to redesign all the artwork. A valid excuse, but not really one gameplayer's will care to hear.

The slightly dated look is offset to an extent by the variation in locations, and the fact that there's much more to get the brain cells around than all those post-*Doom* games. Make no mistake, *Daggerfall* is a true RPG, which means statistics for practically everything – from a player's swimming

ability, to the protection afforded from a pair of boots. Even the character creation at the start is based around the old dice rolling system of *Dungeons & Dragons*. Whether such classical leanings are a good or bad thing will no doubt be down to personal taste.

Well-handled

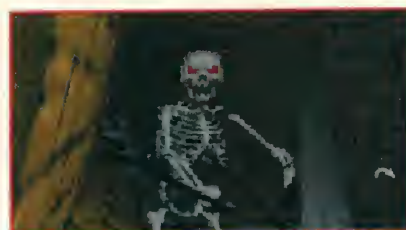
What is undeniably well-handled, though, is the way such rules of tradition are integrated into the real-time 3D action. *Ultima Underworld* is obviously the reference point, but *Daggerfall* possesses a style of its own. A unique spellcasting system is used – with scope for the ambitious to create new ones, and even the character class system can be altered to suit player tastes. Plus, the use of real 3D does come into play in the game, with much looking down pits, or tilting up to fight airborne attackers adding to that sense of reality.

Ironically it's the excellent introduction level, complete with on-line tutorial, that leads players to think *Daggerfall* is nothing more than a regular dungeon-bash offering. A wholly underground sequence, it takes players from first steps using the movement





On a mission to recover some stolen holy water, our hero swings his spikey ball arm in an attempt to avoid being chopped to pieces by the local militant branch of the WRVS.



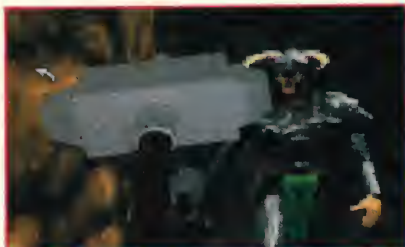
This guy has a bone to pick, but a few prods with this long sword will rattle his cage.



Travel around the lands of Daggerfall is so much speedier on horseback.

FIGHT THE GOOD FIGHT

Combat in the world of *Daggerfall* is of the good old 'jiggle the mouse around' variety. The sequence of pictures, right, shows the sort of bundle you can expect to get into...



Fighting the good fight: first, find the heftiest weapon around and swing it at your foe.

controls through to full-on combat, looting and use of magic. There's half a day's worth of adventuring in this sequence alone, so novices might be forgiven for thinking that completing this area means they've finished a sizeable portion of the game. They might also think it's all a little bit samey, what with the reliance on moody dungeons locations.

The reality is, of course, that the introduction level is a mere speck in *Daggerfall*'s grand design, the completion of which leads to the great outdoors, to the cities, temples, and many adventures beyond. It feels remarkably like going for a swim in your local pool only to find that you're smack in the middle of an ocean. And it's only then that the sheer scope of the game hits home.

Dead man walking

The story providing the backbone for all this adventuring concerns a dead king walking the lands of *Daggerfall* in the search of revenge, and a mysterious letter sent long ago from your master, the Emperor, to that king's wife. Naturally these two events aren't



Step two: swing the bugga all over the shop, and pray you'll cause major bloodshed.

entirely unrelated, and there's a whole load of power struggles, backstabbing and hidden agendas to be uncovered before the game is won. But – here's the clever bit – there's absolutely no need to follow this story through to its conclusion. Bethesda estimate that it would take 120 hours to play the main thread of the game. But the central plot is really only the jumping off point – a device to occasionally steer you back on course and provide a cohesive narrative to the whole. For, built around this tale of an uprising in the court at Castle *Daggerfall*, there are countless semi-random adventures to tempt the player. Practically every character in the game can, if not send the player on a quest, then at least point them in the direction of somebody who can. And while the randomised nature makes it virtually impossible to load an old saved game and go in search of the same bit of employment, it does make for a limitless land of adventure. There's really no need for an end to the game – if you want to keep playing, then *Daggerfall* can keep throwing adventures at you. Hell, the



Step three: Repeat until the bad guy goes for a lie-down. A permanent lie-down, that is.

entire central plot of the game can be totally ignored if you'd rather just go around hacking things to bits.

A word of explanation

It works something like this: player wanders into town, with the intent of spending some hard won gold on a new sword. A chat with the weaponsmith leads to a visit to a fighter's guild, where the player is invited to join, and given a quest to undertake – say, the recovery of an artifact from a temple or dungeon. Upon returning victorious to town the player is handed a note from somebody at the court of Castle *Daggerfall*. A covert meeting leads to more clues, and the player decides to visit the castle. A conversation with the king leads to another quest. And so off the player goes to another dungeon, charged with the task of defeating a mighty sorcerer. And so on it goes, quest building upon quest, little pieces of the central plot cropping up in between. Plus, the player's skill is increasing with every quest, gold is being amassed and spent on better



The magic guild where spells can be bought, or full membership gained.



A bloody head can lead to no end of joke fun. Don't lose your head, for instance. Heading for trouble is another. In fact, insert your own gag featuring the word 'head' here.



When you inadvertently slip off your mortal coil, through some misdemeanor with a large orc, you are commiserated with a trip into a toasty grave.



Contracting lycanthropy is just one of the many dangers facing adventurers.



NEXT MONTH

Exclusive playable demo on CD Review



A moveable, scaleable map screen is available at any time when on a quest.

weapons, armour, and spells. It's even possible to buy property, a ship or a horse. By which time real life may just be a memory, the virtual universe of *Daggerfall* having consumed every moment of your life.

Daggerfall really is this big – if you can imagine it then there's a very good chance it exists in this game world. Every city has its own geography, every building level can be fully explored, and even inter-dimensional travel is rumoured. The biggest problem with this game is deciding what to do next...

And so, naturally, there is a downside to all this. Anything which offers this much freedom is occasionally going to bewilder and befuddle. Novices are likely to get confused when that intro section is completed, finding all the possibilities of their first city visit just a little too much. And then there's the simple fact that traipsing around all the towns takes bloody ages. Once you've seen one pretty town with identikit characters wandering



But for a really good idea of the lie of the land, a 3D map is available. Neat.

through the streets, you've seen 'em all. When it's necessary to ask strangers for directions to unfamiliar buildings, things begin to get very long-winded indeed.

Plain or ready insulted?

Then there are the limitations of character interaction. Conversations are handled with several topic menus, covering key locations, characters, and recent news – with the ability to ask politely, plainly or bluntly. Naturally going through this rigmarole for the umpteenth time begins to get just a teensy bit dull. And it's impossible to find locations or obtain work without all this palaver. It all serves to make the city locations a necessary evil, whereas the quests, being focused better, are far more exciting affairs.

It's certainly the sheer number of dungeons and other enemy-infested locations that makes *Daggerfall* such an enticing proposition. There are an infinite number of



The sex-starved artists who worked on Duke Nukem 3D have friends working at Bethesda.

adventures to embark on, remember. And while there is a finite number of places for these quests to take place in, the variation and impressively individual geography of each one makes exploring the world of *Daggerfall* a delight. Sure, the 3D system is merely adequate, and the combat falls into the now standard mouse-controlled weapon strike format. But battling the dragons, and evil warriors of *Daggerfall* is as exciting as action-based role-playing gets. And with such diversity in the locations, the exploration element becomes equally compelling.

Daggerfall lacks the cohesion found in *Ultima Underworld* titles, or *Ultima 7* and *8* which the game resembles most (despite their different viewpoint). But Bethesda's game offers so much more of everything. It's the best balance between minding the quality and feeling the width around. And that's what makes it the best chunk of meaty role-playing goodness in ages. (MR)

DEVELOPER
Bethesda
PUBLISHER
Virgin Interactive
CONTACT
0171 368 2255
PRICE
£39.99
MINIMUM SYSTEM
486/66, 8Mb RAM,
40Mb hard disk
space, double speed
CD drive, Win95

PC REVIEW VERDICT

An amazing blend of detail and size. Not as lavish as those *Ultima* quests, but a classic all the same

8

The sheer number of dungeons and other enemy-infested locations makes *Daggerfall* such an enticing proposition.

A connected role-player in the court of King Daggerfall

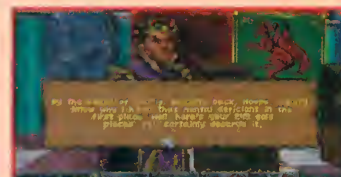
Why do dirty work for relative nobodies such as tradesmen and guilds when you can find gainful employment sucking up to the big cheese himself, the head honcho, the top banana, the numero uno – the King of *Daggerfall*?



The lavishly detailed castle comes with the usual jokers, Donovan wannabes and irritating children.



And here's the King himself, along with his rather curvaceous wife. Best leave that particular mission alone.



A quick word with the King about a newly completed errand and the cash comes rolling in. Next errand, please...



MAKING A MESS

There's a "Making of" mini-documentary on the *Neverhood* CD and it makes very revealing viewing. Chronologically, the creators behind the 'game' talk in little movies about first the pitch and the deal, then the concept, then the artwork, then the model-building, then the filming... oh, and then they talk about the puzzles. Nice to see that gameplay is such a prime concern for them.

DEVELOPER
DreamWorks
PUBLISHER
Microsoft
CONTACT
0345 002000
PRICE
£49.99

MINIMUM SYSTEM
Pentium 75, four speed
CD drive, Windows 95,
SVGA, 8Mb RAM

The cutting edge of media synergy meets the blunt edge of gameplay. Pretentious, intolerable rubbish.

2

PC REVIEW VERDICT

THE NEVERHOOD

This *Neverhood* should have made it off the drawing board, it *Nevercould* have been a good game.



This would seem to be a classic case of media people trying to be games people. Directors, producers and execs trying to be games designers. Mind you, these aren't any ordinary media types, they're multi-millionaire power hitters including Steven Spielberg, Jeffrey Katzenburg and David Geffen. All renowned leaders in their own fields. None of which have anything to do with video games. The result? A bodge. A compromise. Heavy on the concept, oh-so-light on the gameplay.

The concept in question is an interactive clay animation cartoon. Interplay tried something similar before on the Super Nintendo with *ClayFighter* (a *Street Fighter 2* clone with clay models) and *ClayMates* (a platformer with clay models) but the results were disappointing. You can see the thinking behind it. Nick Park wins three Oscars with three successive films, *Wallace & Gromit* adorn all manner of merchandise and cash pours into the Aardman coffers.

Cue Klaymen and a hugely complicated scenario which sends him off into The *Neverhood* to reclaim the throne which is his by right. Cue lots of flowing camera shots

sweeping around The *Neverhood* as Klaymen goes from location to location. Cue some gags and visual jokes that are so bad that the French will instantly declare them the work of a genius. And cue a collection of old logic puzzles and brainteasers.

Yes, *Neverhood* is one of those games. The sort that *Omni* magazine gives awards to, the sort that would-be Nicholas Negropontes describe as "revolutionary" and as "the first game I've wanted to play since *PacMan*." No doubt because the last game they did play was *PacMan* and they haven't the faintest notion of what gameplay is. Like *Cosmic Osmo*, like *Myst*, this is nothing more than a series of loosely-connected problems all dressed in some unquestionably beautiful clay animation in what is an undeniably slick, seductive package.

But it's not really a game. There are tedious sliding block puzzles, the sort that have filled a million Christmas stockings. There are match the shapes to the holes puzzles, testing for the average neo-natal infant. There are *Simon*-like copy the tune note-for-note puzzles. And there are lots of flip a switch here to let you do something

else there puzzles. These involve a lot of exploration via smooth tracking shots of the *Neverhood* (a.k.a. lots of trudging around, skipping the tedious non-interactive animation as often as possible).

The convoluted story is told by a series of 'videos' that you pick up and – incredibly – read from 30-odd screens of text that decorate a wall you have to walk along. And along and along. Detailed as the story is and pleasing as the visuals and music (trad jazz and blues) are, they simply don't gel with the archaic gameplay.

All the great animation and modelling cannot disguise what is a decidedly non-interactive experience with just a few mouse clicks per minute. This product, for that is what it really is, will probably get better hype and better sales than most of the games released for the PC this year, but do not let that fool you. This doesn't belong in any true gamesplayer collection. (CB)



Heeere's Klaymen. Veteran, no doubt, of many a brainstorming session. And he's still crap.



The first puzzle. Use the Venus Flytrap to hold on to the ring that opens the door.



Replace the dud TNT sticks with real ones and you use dynamite, man, for a quick bang.

THE BITMAP BROTHERS

Z

"THE LAST WORD IN ACTION STRATEGY GAMES" EDGE.



92%

Z once the end of the alphabet. Now the end of your social life!

- The most exciting combination of action and strategy yet
 - 20 hair-raising levels over 5 deadly planets
 - 6 types of robot and 11 types of hardware
 - Different factories to capture and control
- Fast and frantic action for up to 4 players (serial, modem and network links)
- Over 30 minutes of humorous video sequences



OUT NOW ON PC CD-ROM



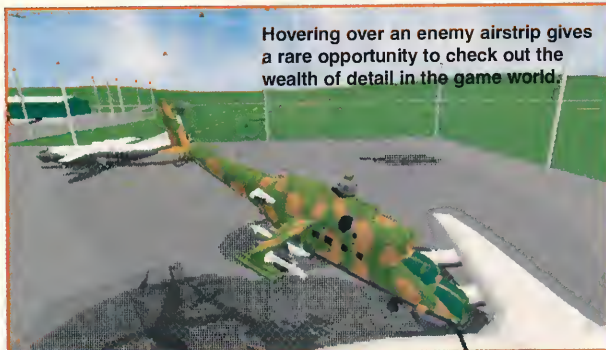
© 1996 The Bitmap Brothers. All rights reserved. Licence from The Bitmap Brothers by Renegade Software. Renegade Software is a Warner Interactive Company. Warner Interactive is a Warner Company. Distributed by Virgin Interactive Entertainment.





THE FLASHING BLADE

What makes the Soviet Hind – officially called the Mil Mi-24 – so different from European and American copters is primarily its dual role as a troop carrier and assault helicopter. Whereas a typical US battle will have Apaches wading in with all their firepower, the Hind with its ability to cover troop transport can make insertions into the battlefield while holding its own. Drawing on the Mi-8 of the '60s, the Soviets built the first prototype in 1969, the craft capable of carrying up to eight troops in addition to the three man crew. By 1975 the further modified Hind had broken eight world records for performance, although it is not capable of doing acrobatic stunts. The Hind E model, on which the game is based, came into being in 1976, with extra features such as a passive radar unit, an Infra Red jammer, and a Spiral AT-6 missile capability. Nice if you can afford them, obviously.



Hovering over an enemy airstrip gives a rare opportunity to check out the wealth of detail in the game world.

HIND

Gob-smacked by Apache? Then Digital Integration's latest chopper-fest will punch you in the face repeatedly.

Ever wanted to know what a vortex ring is? Do you hanker after the secret of acronyms such as WSO and KGMU-2? Then you've come to the right place, because *Hind* is nothing if not technically accurate. And so it follows that it's also incredibly demanding. Oh sure, it features some natty visuals, and a fantastic range of aircraft types, ships, tanks, even ground troops this time round (the representation of war in predecessor *Apache* was a little less ambitious), but to appreciate all these features, there's the small matter of learning to fly the thing first. And despite the inclusion of two simplified flight models, a bunch of training missions and arcade modes, would-be pilots are still going to have concentrate hard.

Sorts the men from the mice

Which is just as it should be. After all, this is a simulation first and foremost – which is what we've come to expect and demand from Digital Integration. *Hind* separates the men from the boys, then charges them with the task of handling 18,000lbs of war machine. Not to mention all the weapons you can attach to the beast. Great.

While *Hind* may initially look rather like *Apache* in Soviet clothing, the very nature of

the helicopter puts a whole new spin on things. This vehicle has a flight dynamic all its own, but it's the troop-carrying capability which really changes things, though – a whole new dimension to missions is added with insertion and rescue tasks alongside the usual reconnaissance, protection and good old fashioned attack runs. The troops also feature in the gameplay too, getting into skirmishes and generally adding extra realism.

It's not just in the area of authenticity that *Hind* goes all out to please. Recognising that human pilots are far more satisfying opponents, a number of two player options are included, including a co-operative mode where one player flies and the other controls the weapons. There's even the option to play against a friend who owns *Apache*, making for some great East vs West face-offs. In addition to these link-up and modem options, *Hind* also does a 'Doom' and offers 16-player network modes, including capture-the-flag games and full-on death-matches. The consequences are, naturally, explosive.

If you play alone, you have the choice of a number of single missions to help you get to grips with elements of control and strategy. Three campaigns are also on offer (in Afghanistan, Korea and Kazastan – all close-

ly modelled on the real terrain), each of which features 'story' threads, so how you fare in one mission will impact upon others.

Not a lot of eye-candy

Of course, *Hind* does share its predecessor's sparseness in the visual department – the landscapes are well contoured and detailed but lacking in eye-pleasing textures. But with the increased use of ground forces things are at least usually busy, and the graphical simplicity does mean that such a crisp resolution can be used without sacrificing fluidity. Similarly sound isn't excessively used, but the Soviet-tinged speech samples and booming FX are all the better for it.

It's hard to fault *Hind*. As a simulation it excels in every area, managing to offer surprisingly complex warzones while showing an incredibly detailed aircraft simulation. Some will struggle despite the variety of help facilities, and doubtless the arcade buffs will find the action and the graphics a touch drab. But then this was never intended as a pick-up-and-play bit of fluff. It easily contains enough new features to justify owning this and DI's *Apache*, and offers something just that bit classier than Jane's *Longbow* sim. It is, quite simply, the best in its class. (MR)



Hind builds on DI's excellent Apache, offering you a perspective from the other side of the Iron Curtain, and adding ground-based troops.

DEVELOPER
Digital Integration
PUBLISHER
Digital Integration
CONTACT
01276 684959
PRICE
£39.99
MINIMUM SYSTEM
486/66, 8Mb RAM,
CD drive, 28Mb disk
space, Win 95

Hard as hell to get to master, but a lifetime's worth of combat in the air once you're there. Incredible.

PC REVIEW VERDICT

8



The WSO, where ambitious players, or a handy second player, can manually control the targeting and weapon functions.



Not only do day missions feature the sun in the sky, but all shadows are correctly worked out in terms of positional angle and size.



The external camera views are great for low-level runs. They can also be practical when it comes to judging distance from the ground.



creatures

**“This is
a giant leap forward
into a new and unknown
world. It is awe-inspiring.
I first saw this product in the
same week that evidence
was discovered of life on
Mars. This is more
exciting.”**

**Douglas Adams author of
The Hitch-hikers Guide to the Galaxy.**



Dator 5 is about to become the scorched planet. Can you save the humans or is their colony doomed?



This external camera view shows the craft in flying form above a pyramid village.



Watch those magnificent but deadly snowbats swoop over an imperiled town.



Your tank is an amphibious vehicle. Here we drive across water to the space gate.



A beacon attracts a stream of soldiers while our tank fends off an attacking bat.

SCORCHED PLANET

Strategy, 3D action and Defender-esque gameplay all in one game? We test the manufacturer's claims...

CD REVIEW

On the disc you'll find a playable demo of *Scorched Planet*.

WHODUNNIT

Guildford-based Criterion Studios was set up in January 1996, to showcase *Renderware* – a top library of 3D routines designed by its own parent company. This top game is its first, and is much more than just a showcase for the graphics engine. Look out for *Sub Culture* and *Aqua Tak* scheduled for release 'some time' in the next six months.

The red earth rushes by beneath you. All around pterodactyls circle, letting out hideous squawks and bombarding you with fireballs. Under heavy attack, you bank your ship and hit the morph key. Instantly your warbird drops from the sky.

With a crash and a bounce you find yourself the midst of a group of terrified humans. As you open the hatch and five civilians bundle in, you let off a volley of sonic blasts to keep the Voraxian reptiles at bay. Two of the beasts meet their maker, but the civs must be saved.

Once again you jump on the morph key and your erstwhile tank is suddenly transformed into a zippy airborne attack vehicle. Accelerating away from the carnage you head for the blue blip on the radar – the space gate. Once the great levitating tube is discovered, you race directly through its length and the humans are beamed away to safety. But, of course, there are plenty

more colonists to save and more evil Voraxians to kill...

Scorched Planet might initially remind one of *Descent* or *Magic Carpet*. Here you are skimming along the texture-mapped surface of a foreboding planet, shooting enemies, gathering power-ups and new weapons, and rescuing humans from the Voraxian onslaught. But while the style of gameplay owes a lot to games like *Carpet*, *Descent* or even *Mechwarrior 2*, there are numerous elements that make it a unique game in its own right.

Scorpions and giant bees

Believe it or not, the actual idea behind *Scorched Planet* didn't come from any of the games mentioned above at all. No. *Scorched Planet*, its makers tell us, is based on the classic arcade game, *Defender*. The obvious similarity is that you have to rescue humans from the clutches of attacking

aliens. Playing the game, however, you'll also discover that your craft can instantly reverse the direction it's facing if you hit the [Spacebar]. Just as your ship could about-face in 2D in *Defender*, you can do the same in 3D in *Scorched Planet*. It's no big deal, but it saves you having to turn a circle to face in the opposite direction and gives you an extra tactical option in combat.

Speaking of fighting action, *Scorched Planet* certainly has its fair share. The Voraxians come in many animal forms including pterodactyls, spiders, dinosaurs, scorpions, giant bees, mastodons, abominable snowmen, eagles... the list goes on. When you kill a beast its corpse turns into shield power-ups, plasma bolts, sonic blasts and so on. Later in your quest you'll also get homing missiles and other goodies.

As intense as the blasting action gets, there is, however, a large strategic side to *Scorched Planet*. It would be easy enough



Be vigilant: those Voraxians come in many shapes and sizes...



The first Voraxians you meet look something like pterodactyls. They tend to circle and shoot fire at you.



In the second set of missions you meet killer bees – a niggling pain but fortunately not hard to kill.



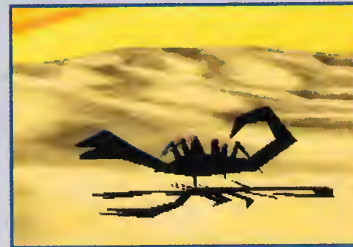
Then come the dinosaur lizards. These reptiles may look threatening, but they're slow and stupid.



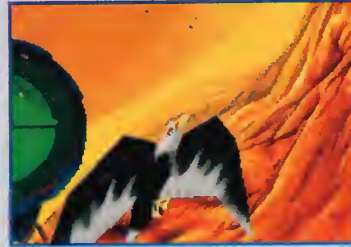
On the snowy levels, abominable snowmen, woolly mammoths and snowbats are your targets. Deadly.



Crikey – there are even giant mosquitos! Extremely pesky, they fly very quickly and do lots of damage.



Big, black, but not that deadly, this evil-looking scorpion is caught lingering by the space gate.



The giant Voraxian eagle is faster on the turn than previous flying predators, and more robust too.



On the final level you have to battle the Voraxians in deep space. Could this be their true form?

Hi Res



This hi res beacon brings civil order to things in a world of mounting chaos.

Lo Res

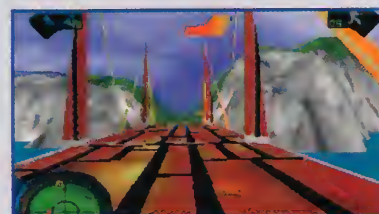


In lo res mode the game flies along very fluidly, but obviously looks more blocky.

Scorched Planet: The Defender of the '90s?



Like the classic, *Defender*, *Scorched Planet* has flying baddies who steal civilians. Similarly, you can turn your ship around instantly by pressing [Spacebar].



Unlike *Defender*, this game is strategic. It has a morphing craft, soldiers who fight on your side, beacons to call the civs and, of course, it's in 3D.

to go around collecting humans and killing the Voraxians, but things are a bit more complicated than that. To begin with, you can only collect five humans at a time, so you'll find you're ferrying back and forth to the space port a great deal. Secondly, flying the ship uses your fuel up quickly, so you're usually best off using the tank unless an emergency arises. Thirdly, not all humans are civilians. Some are armed soldiers capable of fending for themselves. Placing these in strategic locations can help you fend off Voraxian attacks. On later levels there are even turrets the soldiers can fire.

And as a final strategic element, there are beacons which can be used to summon humans. If the enemy is attacking a settlement and you want the people to evacuate,

you can drop a beacon away from the action. Then you'll be free to fend off the attack. Once the population is assembled at the beacon, you just drop by, pick them up en masse and head to the space gate.

Totally unscathed

Without these complicated elements *Scorched Planet* would be just another 3D flying blaster. As it is, however, it manages to balance some intense fighting situations with a pretty demanding strategic angle.

But *Scorched Planet* can't get away unscathed. The music is pretty forgettable and the sound effects, as well as explosions, too puny to impress. While there are different weapons, they're quite similar in effect. There's also a lot of variety among the

different attacking beasts, but the actual combat is very samey after a few missions.

Thankfully, though, the colourful planet terrains offer new challenges. The plains level is short on fuel, so you can't fly around, and another level offers the challenge of a super rocky ground surface that's difficult to drive across. In one mission you can even drive across a churning sea, getting whipped all over the place. Throw in pedestals, bridges, rockfaces, valleys and so on, and the terrain very much affects the gameplay.

Scorched Planet doesn't dazzle, and is not instantly addictive. Once the thrill of morphing from tank to plane wears off, though, there's a long, challenging campaign ahead. It's slow to tighten its grip, but is eventually a very worthwhile choice. (GW)

DEVELOPER
Criterion Studios
PUBLISHER
Virgin Interactive
CONTACT
0171 368 2255
PRICE
£39.99
MINIMUM SYSTEM
P60, 8Mb RAM, 28Mb
hard disk, double
speed CD drive,
Windows 95 or DOS

PC REVIEW VERDICT
Strategy and shooting, plus a few unique twists, make *Scorched Planet* a good choice.

8

Scorched Planet is a game that manages to balance some intense fighting situations with a pretty demanding strategic angle.

For true *Defender* action on your PC you can pick up the Williams Arcade Pack from GTI for £19.99. Just call 0171 258 3791. Alternatively, you get a shareware version like *Defendroid* which was on CD Review issue 56, June 1996.

GIVE US
A CLUE

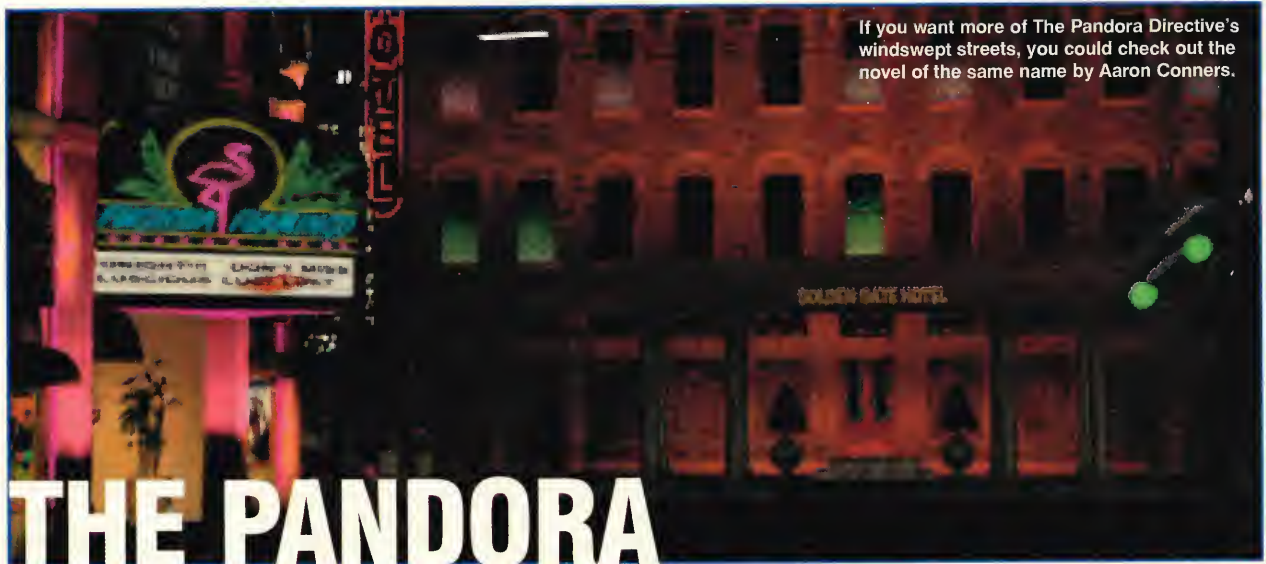
Stuck for a lead, the *Twenty First Century* investigator spends as much time chewing gum and flicking quarters as did his forebears. But this is the future, and technology usually has an answer. By calling up the hint directory, you get a list of everything you are currently failing to solve. Spending points buys hints. Like all man's inventions, used sensibly it's a boon, wiping out frustration. Use it stupidly, and *The Pandora Directive* will be over in an evening.

DEVELOPER
Virgin
PUBLISHER
Access
CONTACT
0171 368 2255

PRICE
£49.99
MINIMUM SYSTEM
86/66 MHz, 8Mb RAM,
9Mb hard disk, double
speed CD-ROM drive.

Pulp fiction
doesn't come
much better than
this. But it's too
expensive for
top marks.

PC REVIEW VERDICT



If you want more of *The Pandora Directive*'s windswept streets, you could check out the novel of the same name by Aaron Connors.

THE PANDORA DIRECTIVE

At last, a game that lets you hassle people in a dirty brown mac. But how does the sequel to *Under a Killing Moon* fare under close investigation?

Just like its predecessor, *Under a Killing Moon*, *The Pandora Directive* has cost a fortune to produce (over \$4 million), welds point-and-click gameplay with a roaming 3D world, and stars the quip-slinging Private Detective Tex Murphy. And, just like *Under a Killing Moon*, it splits people into two distinct camps: those who love this kind of progressive, interactive movie, and those hate this kind of stilted, over-animated and pretentious computer game.

The story, set in 2043, begins with a missing person and ends with an alien corpse. When the mysterious Mr Fitzpatrick offers you \$500 a day plus expenses to track down an old colleague, you figure it's easy money. A couple of blows to the head later and you figure it ain't so straightforward. You figure a lot as Murphy – if his clichéd banter irritates you, you'll soon find *The Pandora Directive* unplayable. To coordinate Tex's wisecracks, you select the mood you want to convey and he adlibs accordingly. Generally, his lines are stupid, occasionally they're

funny, but they're always unexpected. It's a surprisingly good compromise – you can express yourself, but the storytelling ambience remains.

Trawling for clues showcases the fairly impressive video. The acting is much better than the non-union rated "Hey, is that a camera? Er, hey, I'm a film star!" goofiness, with engagingly stereotyped characters inhabiting scenes scented faintly with the whiff of direction. You might even spot some stars, like the astronaut from *Northern Exposure* (Barry Corbin). Only Tex's girlfriend Chelsee is actually appalling. Like a female from *Knot's Landing*, she fiddles with her comfy pullover, engages in banal verbal self-analysis and seems only there to grant or deny sexual favours.

The other familiar feature of a Tex Murphy adventure is the 3D engine. You move with the mouse, dropping into the Interactive mode to get and examine objects. You feel quite giddy at first, walking into and then through the locations. But the result is a

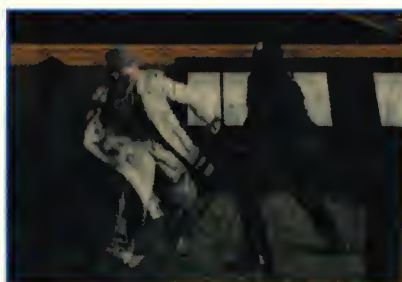
satisfying sense of freedom, further enhanced by the vaguely non-linear plot. While you must resolve the major issues to advance the Roswell inspired tale, there is some latitude in solving problems. Mostly, these problems involve you hunting down actual clues rather than fumbling with ridiculous sliding puzzles, just like you'd find as a real scumbag investigator.

The big question mark hanging over *The Pandora Directive* is, as you'd expect, its longevity. Six discs can certainly provide a lot of interactive movie, but compared to a traditional adventure the overheads remain enormous. Access has tried to bulk the game up by building in two difficulty levels and the promise of multiple solutions. But would you really start it all over again, just for a chance to see that bit of extra video footage?

If only games like *The Pandora Directive* cost a tenner, they could really rival the video store. As it is, they remain an expensive way to spend a few evenings. (OB)



There isn't a lot of difference between B-grade movie actors and lifeless alien corpses.



Alas, Tex's Ninjitsu opponent didn't fall for the old gun-in-the-pocket ruse.



Hmmm, the clay pigeons are flying high among the stars tonight.

MMmmm! Delicious!



Sally Smith

Once you've started Shattered Steel it's so difficult to stop – in the interest of your stomach we recommend a meal you can eat with one hand.

So while you feed your head – as a freelance mercenary in a mechanical war against creatures bent on the destruction of human kind – you can feed your stomach and enjoy Interplay's tasty Domino's Pizza offer!



HANDY TIP

As a tasty alternative to eating your brains, why not enjoy a **FREE Coke** and a **FREE garlic pizza bread*** when you play our **FREE Shattered Steel demo!** For your demo and Domino's Pizza voucher call **FREE**

0500 404840

*Offer applies only when you order a Domino's Pizza.

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FEED YOUR HEAD

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TAKEN APART BY TREVOR
FROM NORWICH.**



You'll be surprised what you can take to pieces in Armored Fist². It's the ultimate of all tank simulations. Get to grips with the rolling fury of the M1A2[™] Abrams[™]. Experience the 3D realism created by NovaLogic's stunning new Voxel Space 2[™] graphics. Hear the thundering sounds of vicious armed combat in piercing, digital stereo sound. Naturally, you can

even hook up with your friends over a network, modem or via direct connect. Just don't expect them to be your friends for long.

And never expect to live forever, Trevor.

For more information please telephone NovaLogic on 0171-405 1777 or write to NovaLogic Ltd., 26-27 Boswell Street, London WC1N 3JD.

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NOVA



LOGIC

TM



ROAD RASH

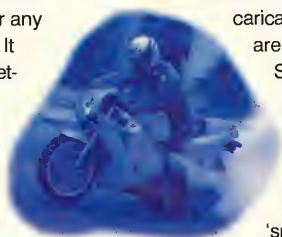
The only rash thing about this game is the decision you'd make if you foolishly choose to buy it.

Were you one of those people who bought a Mega Drive in the overheated videogames boom of 1992-93? If so, then you're partly to blame for *Road Rash*, as it dates from the days when Segas and Nintendos sold in their thousands. *Road Rash*, you see, began life on the Mega Drive and was never ever any good but sold out like old Sex Pistols. It was, and is, a woefully basic and forgettable bike racing game.

But wait, that doesn't look like a Mega Drive game! And, you're right. This is, in fact, a straight port of the 3DO version of *Road Rash* that debuted in late 1993. It was, and is, a woefully basic and forgettable racing game. Oh sure, plenty of people raved about it, but let's face it, any 3DO game that worked got raved about. Sadly, that means PC *Road Rash* still has all the unpleasant American presentation that Trip Hawkins and

his 3DO cronies gushed over. (You can just hear those development meetings: "Hey, awesome cinemas, you guys...")

So, before you get into the game you have to sit through some awful FMV clips of biker types. Then there are the menu screens – full of exaggerated caricatures of bikers – which are equally embarrassing.



Still, it's worth ploughing through them as the game itself is really special. Actually, that's a lie. Unless that's special as in 'special' school.

Let's start with the most important thing: the gameplay. It just doesn't feel right. The control experience simply doesn't convince. Sure, the standard accelerate, brake and steering controls are there, but your bike doesn't feel like a bike –

it feels like a sprite in a game. There seems to be no correlation between what your bike does and what goes on around it. There's no feeling of grip, no sensation of speed, no powersliding, no wrestling with the controls – it's as if the last four or five years of arcade racer design didn't happen.

Road Rash's unique selling point – the on-bike punching and kicking – is similarly lightweight. The graphics aren't much better. You and the other bikers are fairly sharp, light-sourced characters, but the oncoming traffic and pedestrians are pixellated up close. The background buildings and trees are also poor, resembling the cut-out facades that wild west towns have in the movies. Put these elements together and the resulting picture is none too convincing.

Do not be taken in by the dying glow of *Road Rash's* console hype. The engine is simplistic, the challenge negligible and the value for money non-existent. (CB)

LET'S RAWKKKKKK!!!
In an outbreak of quality totally out of keeping with the rest of the game, *Road Rash* has rather a good soundtrack. Boasting songs by grunge-meisters Soundgarden, Swervedriver and Therapy?, as well as lesser outfits Paw, Monster Magnet and Hammerbox, the thumping Seattle-sound is ideal accompaniment for a motorbike game. There are even two FMV videos of Paw and Swervedriver tracks on the CD. Sadly, the tunes only play on the menu screens, and once you're in-game you get some wretched plinky-plonky computer music. Which suits the wretched gameplay.

DEVELOPER

Papyrus

PUBLISHER

Electronic Arts

CONTACT

01753 549442

PRICE

£34.99

MINIMUM SYSTEM

Pentium 75, 16Mb RAM, 5Mb hard disk space, SVGA, Windows 95, double speed CD drive

PC REVIEW VERDICT

Unpleasant and unwanted – like the sort of rash you chuck girlfriends over.

3



This is the sort of 'action' that the average game of RR packs in – i.e. not a lot of it.



Looks are deceptive – it's actually very rare for so many bikes to be together in the game.



Hitting cops squarely on the jaw is just about the only pleasure on offer in *Road Rash*.



LET THERE BE LIGHT

The world's most famous prestigious lighthouse was probably the ancient Lighthouse of Alexandria. The only practical wonder of the Seven Wonders of the Ancient World, it was, for a while, the tallest building on Earth. It guided weary sailors safely back to the great harbour with a gigantic mirror that could be seen more than 35 miles out at sea.



The workshop in the parallel dimension is quite like Jeremiah Cricks, bar the six-foot mechanised budge roaming around.



The puzzles in Lighthouse are difficult for just long enough to encourage you to crack them, without becoming frustrating.



Tortured by years of repression at The Gap, the escaped mannequin revels in his new life as a desperado.

LIGHTHOUSE

Is Sierra's brand new point'n'clicker a towering success or a musty monolith from another age?

PUBLISHER

Sierra

DEVELOPER

Sierra

CONTACT

01734 303322

PRICE

£44.99

MINIMUM SYSTEM

486/DX66 MHz, 8Mb RAM, double speed CD drive, SVGA

A moody, well-plotted point-and-click game. Don't expect any great laughs or lively banter, though.



PC REVIEW VERDICT

Back in the good old days, when sailors had two teeth and fewer legs, every rocky coastline worth its salt boasted a lighthouse. The proud beacon was like a fiery angel, saving souls from drowning in the rocky shallows. Yet today, sonar and geo-stationary satellites have turned lighthouses into tourist relics. So is *Lighthouse*, an old-fashioned point'n'click adventure from Sierra, anything more than a mossy monument to a bygone era?

Superficially, it's a clone of the classic *Myst*. However, instead of frigid still screens, much of *Lighthouse* is deftly animated; for instance, a few rooms are intermittently lit by the sweeping beam of a nearby lighthouse. Its characters are quite stunning and, on a fast PC, smooth movers. And the music contributes brilliantly to the atmosphere, each episode having its own musical score.

The plot is also original. You play a writer trying to finish off a novel, who hires a cot-

tage close to the eccentric Dr Jeremiah Krick. Late one night, he calls you over to babysit his daughter Amanda, but you arrive to find the junior being kidnapped. Disaster! Exploring the house, you uncover clues hinting at the Doctor's dabblings in Extreme Physics – experimental notebooks, journals and, shockingly, a homemade gateway to a parallel world. Feeling morally obliged to protect the child, you put your novel on hold and follow the trail to the alternate reality.

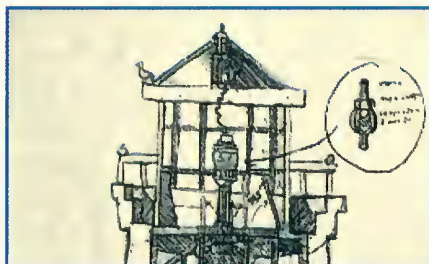
This solid plotting is another strength. Instead of wandering through a sequence of locations, you feel as though you're really uncovering a real-world mystery. Like a good thriller, *Lighthouse* teases you, dropping subtle – and not so subtle – hints to further your understanding of the plot. Even piecing together Jeremiah's extensive journals is itself quite enjoyable, his daily observations recorded in an impressively batty German

accent (is he a zany British professor in the German release?)

Lighthouse does flicker in the light of the best recent releases. Compared with the likes of *Broken Sword* and *The Gene Machine*, there is a lack of interaction with other characters; there's none of the banter and one-liners that set those games apart. *Lighthouse* has very few characters, which might suit its folktale origins but results in a tale both mythic and lonely.

It's a competent point-and-click game, but that isn't enough anymore. Its puzzles are well-pitched and the vehicles add a touch of interactivity, but its slickness is almost a fault. You can't really die, so you don't get frustrated by a flippant death, yet living in deathless world brings its own frustrations. Equally, few – if any – of the objects are useless, but that means you click everywhere automatically. You have to wonder how much life is left in this genre. (OB)

The solid plotting is another strength. Instead of wandering through, you feel as though you're really uncovering a real-world mystery.



If you study Doctor Krick's journals closely, you too can discover the secret of cross-dimensional gateway construction. If you don't already know.



It took 11 artists to create the evocative landscapes in Lighthouse.

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The image shows a Compaq Contura Aero 4/33G laptop. The screen displays a graphical user interface with several windows. One window shows a photograph of a man standing on a boat. Another window shows a pie chart with four segments in red, blue, yellow, and green. A third window shows a table with columns labeled 'A', 'B', 'C', and 'D'. The laptop is dark-colored and has a keyboard visible below the screen. The Compaq logo and model name 'CONTURA AERO 4/33G' are visible on the right side of the laptop's lid.

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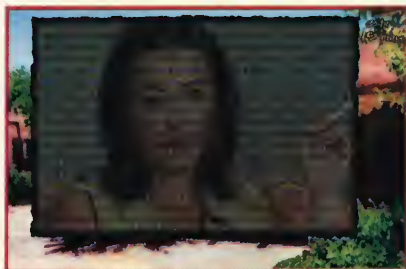


WASN'T SHE IN LA LAW?

Yep, that is Brit actress Amanda Donohoe, best known for her turn as C J the lesbian lawyer in *LA Law*. Amanda plays Karen Gordon in *The Elk Moon Murder* and she displays a passable Texan accent and a penchant for cigarettes. Sadly, Amanda doesn't do any of that naked romping about which made her name in the years before *LA Law*. Still, flesh-starved Amanda fans can always check her out in such classics as *Castaway* (where she and Oliver Reed romp naked around a desert island) and *Lair Of The White Worm* (where she romps naked wearing only a pair of thigh-length black leather boots tormenting Hugh Grant).



Take a look at this bullet wound in her head. Send the bullet to forensics, find out what the autopsy says and start bullying those suspects.



It's Amanda Dirtyho, uh, sorry, Donohoe. She manages to keep her clothes on throughout.



Jack Gordon, widower of the victim. Was his ex bitter enough to kill Anna out of revenge?



This is your PDA – Personal Digital Assistant. It stores evidence and notes.



That's Anna Elk Moon looking a little worse for wear. Go over the crime scene for clues...

THE ELK MOON MURDER

PUBLISHER

Activision

DEVELOPER

Activision

CONTACT

0181 742 9400

PRICE

£34.99

MINIMUM SYSTEM

486 DX2/66,

8Mb RAM, 16-bit

SVGA, double

speed CD drive

Surprisingly good interactive murder mystery that has only a few games in it, but is intriguing while it lasts.

PC REVIEW VERDICT



Blimey! An interactive movie that's not half bad. And it stars Amanda 'I get my kit off in every film I'm in' Donohoe.

What do the words interactive movie mean to you? A mouse click per minute? Why yes. Actors who make Big Ron from *EastEnders* look like the next Anthony Hopkins? Almost certainly. An ego trip for sad programmer types who desperately wish they were hip, gunslinging young independent filmmakers? Now, come, come, that's just being cynical.

The Elk Moon Murder is an interactive movie murder mystery, with you playing the role of the investigating police officer. The investigating is handled in a very straightforward manner, interviewing suspects and informants via simple question and answer interviews. You have to examine scenes of crimes and deal with the bureaucracy of the police force – order phone traces, check alibis, and get forensic examinations done.

None of these tasks rely on real-time arcade skills, and all fit well into the interactive movie template, namely that the choices made can trigger the different clips

of FMV that make up the game. However, every possible task takes a set amount of time, whether it's asking a question or getting a check on a van. And time is not on your side. The case is a sensitive one involving the Native American community in Santa Fe and your boss, Chief Weber, is getting heat from the feds. He's given you just five days to solve the crime and that's where the game starts.

Follow your hunch

Now, the investigation is much more Jessica Fletcher than Bodie & Doyle – most of the time you and your partner, John Night Sky, interview everyone connected with the deceased searching for clues. Interviews are conducted via a multiple choice Q&A session but, unlike a conventional adventure, there are no 'right' questions. There isn't time to ask everybody everything, so to solve the case in time you have to follow hunches, make educated guesses, take chances.

Which brings us to the crime itself. Victim Anna Elk Moon couldn't have woven a more wicked web if she'd tried. She left her violent ex-husband to marry a man who left his wife for her. She was cheating on her new husband. She was an artist who double-crossed her gallery dealer. And she was opposed to a casino being built on Native American lands which pitted her against other Indians trying to bring jobs to the area and against the backers of the casino project. There's more, but you get the picture.

Practically everyone in Santa Fe has a motive – it's up to you to figure out who's lying and get the arrest warrant approved in time. So, the gameplay is sound, the story is intriguing, there's an evocative score, hey, even the acting is fairly good. What's the problem, then? Well, it's just a little too linear and requires too many Agatha Christie leaps of logic that don't make sense until you've had everything explained to you. Still, you could do a whole lot worse. (CB)

You have to deal with the bureaucracy of the police force – ordering phone traces, checking alibis, getting forensic examinations done.



THE MASTER OF DIMENSIONS

Travel to ancient worlds, when *The Master of Dimensions* could pass as a decent game.

These days, a point 'n' click adventure needs superlative graphics, innovative puzzles and a highly original plot merely to be worthy of rubbing shoulders with the old classics upon the choked shelves.

The question, therefore, is what were the creators of *The Master of Dimensions* thinking of? Did they think we wouldn't notice? That, like them, we're living in a time warp and think it's 1993? It's like LucasArts didn't happen.

The Master of Dimensions sees us travelling between 12 different, ahem, 'dimensions' on a quest to piece together Merlin the Wizard's staff. Yes, that Merlin. There's a futuristic space station, ancient Egyptian catacombs and a 1950's Maltese Falcon-esque detective story among many others, and you're free to leap between them at will, thanks to your magic dimension-selecting silver box.

It's this dimension-hopping element that provides the game's saving grace. Become

stumped by a puzzle or in need of further stimulation, and you can beam yourself to another, hopefully more fruitful, scenario in an instant. However, we wound up using the dimension switch as a kind of channel-changer, leaping between scenario every five minutes or so as the plot of each turned out to be either pathetically obvious or irritatingly

obscure. Or, especially in the case of the fifties *Private Eye* section, as an escape from the increasingly banal and plain-old-not-funny dialogue.

Rather than being 12 different adventures in one, as the games creators were so obviously hoping for, we have a half-finished mix of confusingly diverse parts. With classics such as *Sam and Max*

and *Monkey Island 2* now available for bargain basement prices, and games like *Return to Zork* offering so much more of everything, it's a miracle that this game exists. Let's pretend it doesn't. (DG)



My goodness, how saucy! My goodness, how shambolically drawn, acted and scripted.



DIALOGUE? DIARRHOEA.

From the moment where the view outside a window is described as being "like a scene from one of Sherlock Holmes' later movies", you know that the English language is in for a battering from which it may never recover.



Looks like that guy needs your help. Go over and speak to him, and the door opens. Why? It just does, OK?



Ho ho ho! Hey, look everyone, it's a funny fat alien who belches. Belches! Get it? He belches! Brilliant!

DEVELOPER
Mad Engine
PUBLISHER
Eidos Interactive
CONTACT
0121 606 1800

PRICE
£49.99
MINIMUM SYSTEM
486 DX/66, 8Mb Ram, double speed CD drive, soundcard, SVGA, mouse

PC REVIEW VERDICT
A pointless and inept attempt at a point 'n' click adventure. It's all been done so much better before.

3

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DIGGING THE DIRT

The first RAC Rally took place in Britain in 1932, though it wasn't until some years later that the concept of having a winner was introduced, and not until the '70s that the event became part of the FIA World Rally Championship. Over the years winning cars have included the Mini Cooper and Ford Escort, as well as more traditional rallying machines such as the Subaru Impreza – winner of the last two rallies.



Check out the detail on the two cars ahead. Even the correct badges are present and correct, along with the right light fitting and spoilers. They're probably making some kind of point as regards the attention to detail you find at Network Q garages.



A nifty bit of programming results in some convincing headlight stuff. It's a shame the newly-lit tracks aren't a little bit more diverse.



Much of the actual racing is performed on conspicuously empty roads, aside from the occasional breakdown.

NETWORK Q RAC RALLY

Europress do their bit to bring the fine art of car-assisted mudkicking to the gaming masses.

DEVELOPER

Magnetic Fields

PUBLISHER

Europress

CONTACT

01625 859333

PRICE

£39.99

MINIMUM SYSTEM

486/66, 8Mb RAM, 2Mb hard disk space, VESA compatible SVGA video, double speed CD drive.

Some great features, but a lack of effects and lengthy courses mean it's not firing on all cylinders.

PC REVIEW VERDICT

6

CD REVIEW

Playable demo of Network Q RAC Rally.

Wheelspins, rollovers, snowstorms, mud banks, frantic co-drivers – who needs road racing when you can muck about in a rally? Let's face it, burning up the tarmac is all very well, but it's the interaction offered by rallying, the way the car is right there, wheel deep in nature, that does the business. You see, rallying isn't just about battling with other drivers: it's about struggling to keep the car under control in oppressive conditions. It's about battling it out with the very environment.

Which all makes Network Q RAC Rally

Championship, from veteran racing coders Magnetic Fields, something of an anticlimax. Certainly it looks and sounds the part, what with realistically speedy SVGA graphics and engine noises sampled from real rally cars. And the detail given to each of the in-game vehicles is amazing – even number plates and headlights are finely textured. Plus, that

official Network Q/RAC stamp of approval means we're dealing with the genuine UK courses here. Real cars, real tracks – what more could a speak freak want? Well, a fair bit, to be honest.

Not gritty enough

What this game most obviously lacks is that much needed earthiness – the feeling of really getting stuck into muddy tracks and snow drifts, the grit spitting out from underneath scorching tyres, that sense of really being there. Instead it offers the occasional



The snow sections are most effective when viewed from inside the car. Sadly, the effect is less convincing when using the external view.

dollop of short-lived smoke when a corner is turned, and a touch of gravel if you're really lucky. The vehicles don't even leave marks on the roads, even in the snow! Such features may seem like luxuries, but without them a rally game is no different to the average road racer. Even the dirt-based tracks of upcoming all-purpose racer

Screamer 2 feature a greater visual sense of being there than this. For those who fancy the lonely nature of real rallying, there's a whole heap of realistic driving to be done here, all at remarkably high speed. But those seeking the ultimate rally thrill won't be too impressed. There's just too little attention paid to the crucial rallying elements. And without those, it's little more than *Need For Speed* with weather conditions. (MR)



The excellent driver's view of the snowbound action in Network Q RAC Rally Championship. Working wipers, leather gloves, snow build-up and a working steering wheel all add greatly to the driving atmosphere.



The driver's eye view offers the most convincing driving experience – thanks mainly to the added impression of speed and the way the use of the windscreen for the weather effects.



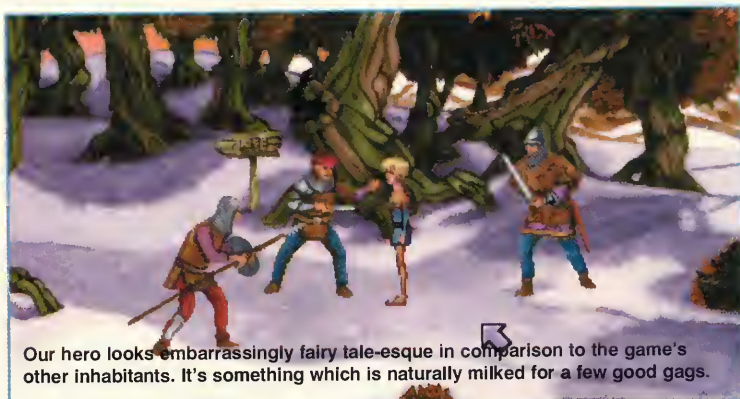
The bumper view is a less cluttered view, and it's another way to fully appreciate the speed and fluidity of the 3D, but it doesn't really give too good an idea of car width.



And for all the Sega Rally and Screamer fans out there, there's the chase cam mode. It's using this view that the lack of car-on-road effects really disappoints.



FABLE



Our hero looks embarrassingly fairy tale-esque in comparison to the game's other inhabitants. It's something which is naturally milked for a few good gags.

This one lies somewhere between the innocence of children's stories and LucasArts' cynical adventures.

Enter, if you dare, the world of *Fable*, a place where fairy tales and smut sit side by side, where magic crops up as often as innuendo, and where Chernobyl is namechecked alongside legends of ice giants. You can't say it's not different.

From the strange minds of Paris-based Symbiosis, *Fable* is one strange tale, wrapped up in the sort of graphic adventure finery that's essential these days. SVGA graphics, a double-easy control system, a whole bundle of speech – there's no faulting *Fable* in its execution. As for the content, that's a rather more bizarre can of worms.

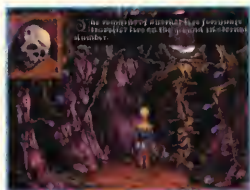
The way it tells its tale is quite neat, offering an adventure so steeped in tradition – young hero, witches, ghosts et al – it could almost be mistaken for one of Sierra's twee King's Quest titles. But then there's the underlying humour, the semi-adult tone of

some of the gags, and the attempts at comedy characters. Some comedy is too childish, though, and other bits too laboured. But while it's no *Sam'n'Max*, there's a likeable quality to it. More obviously lacking is care and attention to the plotting, however. A tendency to string puzzles and locations together in the most obviously linear fashion gives the feeling of a list of brainteasers rather than a genuine story. A pity, because the puzzles do avoid many of the usual clichés, and sweeping the cursor over backgrounds in search of hidden objects is thankfully not a staple.

Stacked up against *Broken Sword*, *Fable* competes well in simple presentation terms. But it lacks that game's flair with conversations, ability to spin out a really good yarn, and exquisite sound and animation. It's a fine way to pass the time, but *Fable* certainly isn't the stuff of legend. (MR)



Waddya know, a lever to widen the crack in the tree opposite. Our hero eventually twigs on.



A good rummage through the tree's less active insides is recommended.



Fable's map screens make navigating round the key locations that bit easier.

DEVELOPER

Symbiosis

PUBLISHER

Telstar

CONTACT

01932 222232

PRICE

£39.99

MINIMUM SYSTEM

486/66, 8Mb RAM, 1Mb hard disk space, VESA compatible SVGA video, double speed CD drive, soundcard

PC REVIEW VERDICT

Not earth-shattering, but an endearing challenge despite the flaws.



DO NOT TURN THE PAGE

UNTIL YOU HAVE SOLVED
THIS RIDDLE



My first is in Castle but not in King

My second in Jewels but not in a Ring

My third is in Fear but not in Fright

My fourth is in Darkness but never in Light

My fifth is in Scotland, but far from Wales

My sixth is in Heads, but not in Tails

My seventh is in Ghost but isn't in Dead

My eighth is a Nightmare but not in Bed

My ninth is Enigma but not in a Mystery

My tenth is an Ancestor but not one from History

My eleventh is You but you are not Involved

My all is a mystery yet to be solved.



TRILOBYTE

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UP THE ARSENAL

One of the better things about *Crusader: No Regret* is all the inventive weapons you have to play with. Even the most innocent of guns can make a satisfying mess of the scenery – if the game does get too dull you can turn your sights on the furniture and architecture. Grenade launchers, rocket launchers and energy weapons are spectacular, as are limpet mines and the scuttling spider bombs that you can set to run into doors or home in on targets.



Taking out the innocent, unarmed civilian workers is entertaining, but beware the guard waiting behind the giant OXO cube.



In the middle of a healthy firefight. All your cover's gone – better get a shot on target.



As a special treaty thing, you can control a vicious ED-209 style robot by accessing the right terminal. You can cause much death and destruction without endangering your frail form.

CRUSADER: NO REGRET

Regrets? I've had a few. But then again, at least I didn't try to make an action adventure in an isometric 3D setting.

DEVELOPER

Origin

PUBLISHER

Electronic Arts

CONTACT

01753 549442

PRICE

£39.99

MINIMUM SYSTEM

486 DX/66, 8Mb RAM, 55Mb hard disk space, double speed CD drive, SVGA

Not a blaster and not an adventure, but with elements of both: as difficult to define as it is to play.



PC REVIEW VERDICT

Like its predecessor, *Crusader: No Regret* is a curious hybrid. The flick-screen isometric 3D environment has traditionally been the home of the arcade adventure with a heritage stretching all the way back to Ultimate Play The Game's groundbreaking *Knight Lore*, released in 1984. Ideally suited to puzzle-posing and problem-solving, isometric 3D is less at home with gunplay, its pretty display often proving confusing in the heat of the action. Which is kind of awkward for this game.

It's standard one-man army against the world type stuff. You're a commando sent on a series of missions by the Resistance, to bring about the overthrow of the dastardly World Economic Consortium. This all boils down to a romp through ten multi-level areas packed with gunfights and puzzles.

Your character has an impressive roster of moves, 21 in total, including slides, rolls and jumps all controlled from a combination

of keyboard and joystick or mouse. All very nice, and all very tricky during battle. Similarly, you've 19 different weapons, 12 guns and seven explosives, and again they're all very nice – but all difficult to select during combat.

Not that the combat is ever heated. In these post-*Doom*, post-*Quake* days, *Crusader: No Regret* seems positively tame, dotting a few WEC guards in each level of an area, along with the odd gun battery and laser cannon. The gunfights are hardly tense shootouts, as your ungainly character has to wheel around to get his sight on target before he can get a shot off with any hope of hitting his target. Action it may be, but action-packed... that's another thing.

If the action in *Crusader: No Regret* is compromised, then so too are the puzzles. For the most part, they're straightforward, 'Find-the-thing-that-opens-the-door' puzzles that revolve around you tracking down the

right computer terminal or keycard to access another part of the level. It's not very taxing.

Thankfully, *Crusader: No Regret* avoids the most cardinal sin of isometric 3D games – you don't have to walk around every object, just set off in the direction you want to and it steers you around minor obstacles. And all that isometric 3D makes for a very attractive game. Little details like terminals and the decor of each level is impressive and animation is good, from your running, jumping, rolling main character to the guards who flail about in flames when attacked.

Origin apparently attempted to make up for the dated nature of the game by bundling as many moves, guns and twiddly objects as possible. The result? An over-burdened control system and gameplay that lacks focus. A shoot-'em-up that doesn't have enough shooting and an adventure that doesn't have enough brainteasers, *Crusader: No Regret* falls awkwardly between two stools. (CB)



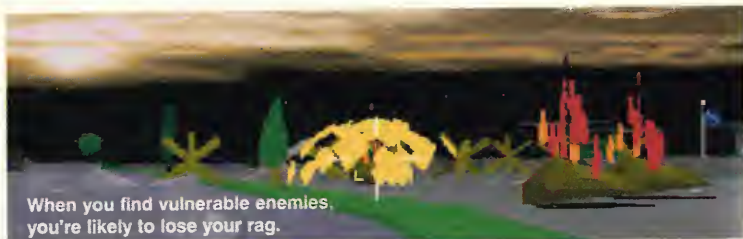
The best thing about *Crusader: No Regret* is that everything can be shot up. Those crates, lockers, fences and giant spark plugs.



Progress is halted by a laser grid. This means only one thing... you must trudge around to find out how to turn the blasted thing off.



Having opened the door and sent a spider mine through it, you can watch a guard turned human torch run his last few steps.



When you find vulnerable enemies, you're likely to lose your rag.

Welcome to the world of Metal Rage. Please close the door on your way out.

METAL RAGE

Titus' *Metal Rage* is a failure, simply because it's a tank game in which you never feel like you're driving a tank.

Tanks are meant to drive into people, through undergrowth and over anything that gets in the way. A tank owner shouldn't have problems finding a parking space. Gulf War footage was littered with pictures of upturned tanks, the ultimate symbol of Iraqi impotence. And in folklore the mighty tank could only be destroyed by sneaking a grenade through its hatch.

But in *Metal Rage* your tank slips about like a puppy on ice. It cannot drive over trees or through fences. It's as exciting to drive as the game's flat, textureless landscape. In *Metal Rage*, you sneak about like a snidey dwarf

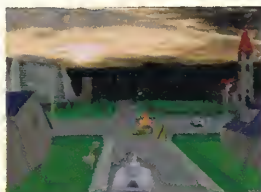
looking for something you can actually damage. Early in the game you find a helicopter parked on a lawn. You empty all your missiles. Not a scratch. You let off everything else (which takes about five minutes). Hello?

It doesn't matter whether you're supposed to destroy this helicopter; it's preposterous that you can't. The whole *Metal Rage* universe is unreal. There are barricades blocking the streets — you can't even shoot through them. You go up close and watch your missiles exploding in thin air. This is not a rewarding gaming experience.

Metal Rage's developer has said it likes its retro style. But the truth is that if *Battlezone* had been half as unconvincing as *Metal Rage*, it would have been forgotten long ago. (OB)



Shooting helicopters down is as pretty much as good as Metal Rage gets.



It's full of (indestructible) bridges and buildings, but the overall effect is flat.



You can blow these barricades up with your missiles. But you can't shoot through the gaps.

DEVELOPER

Titus

PUBLISHER

Titus

CONTACT

0171 700 2119

PRICE

£24.99

MINIMUM SYSTEM

486 MHz, 4Mb RAM,
double speed
CD-ROM drive

PC REVIEW VERDICT

A 3D retro tank-blaster that shoots itself in the foot (and misses).

4

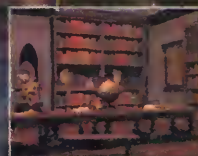
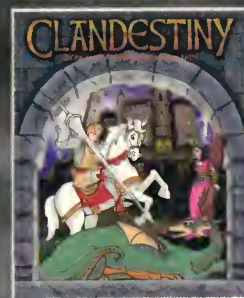
YOU CAN'T CHEAT

WHEN YOU PLAY

CLANDESTINY



A spooky Cartoon adventure from the creators of The 7th Guest™



TRILOBYTE



MICROSOFT MAKE GAMES SHOCK!

Much has been said about Microsoft's moving into the games arena recently, and *Close Combat* is one of their first releases. If the rest of the line-up is of a similar po-faced style to this effort, then the rest of the games industry's livelihoods are not under threat.

DEVELOPER
Microsoft
PUBLISHER
Microsoft
CONTACT
0345 002000
PRICE
£44.99
MINIMUM SYSTEM
Pentium, 8Mb RAM,
20Mb hard disk,
double speed CD
drive, Win95, SVGA

A war game bogged down by its factual settings and realism pretensions. No fun at all.

PC REVIEW VERDICT

5

CD REVIEW

Playable demo.



The bumpy Normandy terrain can on occasions cause your troops to trip and drop their prized jam rations. Damn.



CLOSE COMBAT

War. What is it good for? Absolutely nothing. Likewise Microsoft's Close Combat.

Like *Command and Conquer*, *Close Combat* places you in charge of hundreds of tiny troops who rely on you to pick out their targets for them, tell them when to move in and tell them when to get the hell out. It's amazing therefore, that despite the obvious similarities, *Close Combat* is no fun to play whatsoever. Now, no one is saying that war is a laughing matter, but when you pop one of Microsoft's new 'games' in your PC you expect to be at least entertained. Instead, *Close Combat* wallows in its factual portrayal of famous World War 2 battles and baffles us with historical accuracy and intricate detail.

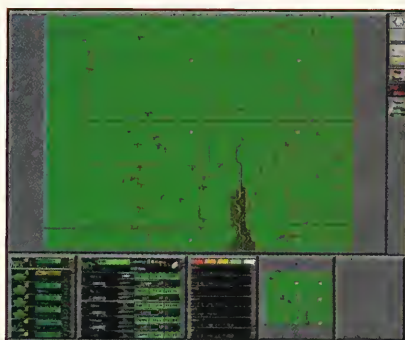
The game's set in 1944 in occupied Normandy (which, the manual reminds us, is in France). There are six different scenarios to play, all of which replicate genuine stand-offs between the German and Allied forces, and the player is given the chance to change

history, by being able to play on either side. All very well and good, and extremely interesting for World War 2 historians, no doubt, but what's it like to play?

The answer is pretty painful. For a start, the game's only useful view (one that shows a decent amount of landscape) strains your patience and your eyesight as you try to differentiate the soldiers from the scenery. And, once you've successfully detected one of your troops you find that they are inescapably linked with the rest of their unit – click on one and the whole bally lot jump to attention – or they'd jump if the game moved at anything like a reasonable speed. Thanks to the fabulous realism involved, a six-week battle will probably take exactly that. Worse than the inability to select single troops, is the inability to select many troops simultaneously. Many's the time playing *Close Combat* that we tried to sweep a box

around stray troops, C&C-style, only to discover that this was ridiculously not possible. Every group of troops requires addressing individually, meaning that attacks are laborious point-click-point-click affairs. And often, rather than rushing in extra troops to aid a falling unit, you'll let the poor blighters cop it due to the excessive screen-scrolling and mouse manipulation this involves.

World War 2 buffs, fresh from shaking dice and moving tin soldiers around the dining table, may find *Close Combat* highly stimulating. There's no shortage of facts and figures to pore over. Each soldier's health, ammo and general demeanour can be examined and, thanks to a built-in Normandy invasion encyclopedia masquerading as on-line help, no war time trivia is left unaired. The rest of us will find this about as much fun as real war. Give us *Command & Conquer* or *Z* any day. (DG)



The wide-angle, battle-field-at-a-glance view shows your progress across the map. And not much else.



Select a unit and drag the line over to their target. In this case some German soldiers you've caught sunbathing.



A typical *Close Combat* scene. Those tiny green splodges are your soldiers, the grey ones are the Germans. Spotted them yet?

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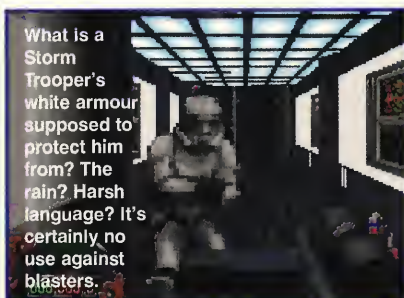


BONANZA

With budget games clogging the charts, the software companies are preparing a fresh salvo of bargain broadsides. Acclaim and Interplay have combined forces to produce a new label called Black Market, to flog the likes of *Warcraft*, *Descent* and *Mortal Kombat* for around a tenner each. And Eidos is relaunching its Kixx label, with *Flashback* and *Rise of the Triad* leading the charge. Watch this space...

REISSUES

You could save pounds and pounds by buying just budget games, only months after their original release.

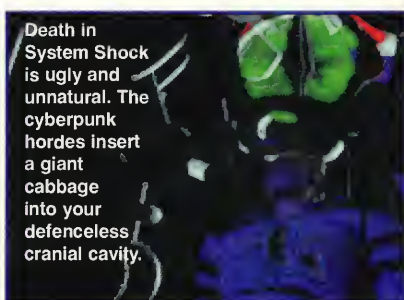


What is a Storm Trooper's white armour supposed to protect him from? The rain? Harsh language? It's certainly no use against blasters.

Dark Forces

Until somebody renders Chewbacca in glorious *Quake*-style 3D, *Dark Forces* is the greatest *Star Wars* game ever. Basically, it's *Doom* with stormtroopers. But, with the *Star Wars* theme tune lifting your heart, it's so much more – the Galaxy, Far Far Away comes alive with true 3D environments and cinematic cameos from the likes of Jabba the Hutt and Darth Vader. On the downside, as the hype's made clear, first-person shooters have made the jump to hyperspace – expect *Quake* and you'll be disappointed. Some levels are flatter than the desert plains of Tatooine, too. But ultimately, *Dark Forces* remains a classic Force to be reckoned with.

White Label, £14.99



Death in *System Shock* is ugly and unnatural. The cyberpunk hordes insert a giant cabbage into your defenceless cranial cavity.

Space Hulk and System Shock

Fast-forward to the future with these two sci-fi romps. The ageing *Space Hulk* is a first-person combat game set in Games Workshop's Warhammer 40,000 universe. Your crack team of exoskeletoned rento-killers must wipe out a seemingly endless supply of Genestealers from lifeless, deserted space ships. The AI of your troops is pretty dire and the game's tough, but it's faithful to the board game. (After all, how brainy is a lead soldier?) *System Shock* meanwhile, is an excellent cyberpunk adventure. It's a well-plotted touch of class – less William Gibson, more a Gibson dry.

Telstar, £19.99

Budget Game of the Month

Full Throttle

Quite how Ben, the granite-hewn captain of the Polecats' futuristic biker gang, has such an unfeasibly square jaw isn't the only puzzle in this slick adventure, but having said that, there isn't a whole load more. *Full Throttle*'s a game short on interactivity, but piled high with cinematic sequences, close-ups and cutaways that just about make up for it. Don't expect to spend weeks pouring over fiendishly difficult puzzles and verbal jousts in a guttural street slang. Instead, get out the popcorn for what some thought was the best motorcycle film since *Easy Rider*.



Ben sports a midnight shadow on a simply astonishing jawline, in LucasArts' interactive movie, *Full Throttle*.

White Label, £14.99

Theme Park and Strike Commander

A god game with a difference, *Theme Park* places you in charge of big bouncy castles, walking sharks and candy-floss floggers as a prospective Walt Disney. Produced by Bullfrog, purveyors of all things original, there's been nothing like it since. *Strike Commander*, on the other hand, is another flight sim, but it's still one of the best around. You can fly both F-16s and F-22s, and the emphasis is very much on engaging you and the enemy rather than the tedious science of keeping a plane airborne.



Bullfrog's *Theme Park* is likely to remain a perennial favourite, at least until the engaging and infectious *Theme Hospital* is released next year.

Telstar, £19.99



FIFA International Soccer and PGA Tour Golf 486

Two excellent sports games, though neither is a stranger to the teeming smorgasbord that is Budgetville. *FIFA International Soccer* remains the Klinsman of the soccer games, presenting an ultra-smooth isometric footie field alive with skilful players that backheel, chip and curl like John Travolta in Adidas togs. Elsewhere in the box, you'll find *PGA Tour Golf*, the game that brought good graphics to PC golf. It boasts endlessly challenging gameplay, sampled commentary and no checked trousers, but is let down slightly by offering only two courses.



FIFA Classic: now on budget.



PGA Tour Golf 486: "Right then, back to the club house for G&Ts".

White Label, £14.99

Lost Eden

White Label, £9.99

Had Cro-magnon man a *Lost Eden* to play with, he mightn't have bothered discovering fire. A stunning pre-rendered adventure, it charts the demise of the previously peaceful alliance between early man and the ten ton flesh-tearing dinosaurs they'd shared the earth with. Yes, we know that it's prehistorically inaccurate, but it's playable, well-scripted and, if it's too short, well that's how life was in those days.

Tilt

Virgin, £9.99

Despite featuring a host of beautiful tables (each one married to its own music and sound effects), *Tilt!* has found few fans in the half year since it was released. The problem is insurmountable – the ball simply doesn't move properly. It seems sheer luck whether your ping-pong-like ball-bearing goes anywhere you want it to, an experience you'll soon tire of.



Tilt!'s bonus game's innovative, just like the game proper. Shame about that damn ball though, eh?

Virgin £9.99

High Octane and Wing Commander 2

Bullfrog missed a hop when it rehashed its *Magic Carpet* engine to produce *Hi-Octane*, a sort of substandard *Wipeout* that only really comes alive in multi-player mode. *Wing Commander 2* meanwhile is a sort of substandard *Wing Commander 3*. The earlier *Wing Commander*'s are no longer essential titles, even on budget.



Time's moved on to savage the old *Wing Commander* titles. With the current budget bonanza, look elsewhere for top-quality blasting.



Peter Molyneux, you brought us *Populous*, you brought us *Theme Park*, so why on Earth did you bother bringing us *Hi-Octane*?

Telstar £19.99

TILT REVISITED

So *Tilt!* has woken up to find itself on budget, only six months after release. What went wrong? *PC Review* tracked down Jon Harrison, the original designer and graphic artist on *Tilt!* He's gone on to become development manager at NMS Software, so he's obviously managed to put *Tilt!* into perspective.

Are you proud of *Tilt!*?

Graphically, yes. The program was a little rushed and at the end of the day we just ran out of time. We tried to get it out as quickly as we could. As the first original PC project for us at NMS, *Tilt!* gave us some great publicity. Also it was the first Silicon Graphics work that we ever did, we just got the machines and we dived straight in!

But did *Tilt!* change PC games forever?

Er, maybe. I think it gave people an idea that pinball games didn't have to simply be top-down plan views. We were pretty original with our scrolling idea – OK, it might not have been too popular but it made people stop and think. I guess some people did pinball games better than us though...

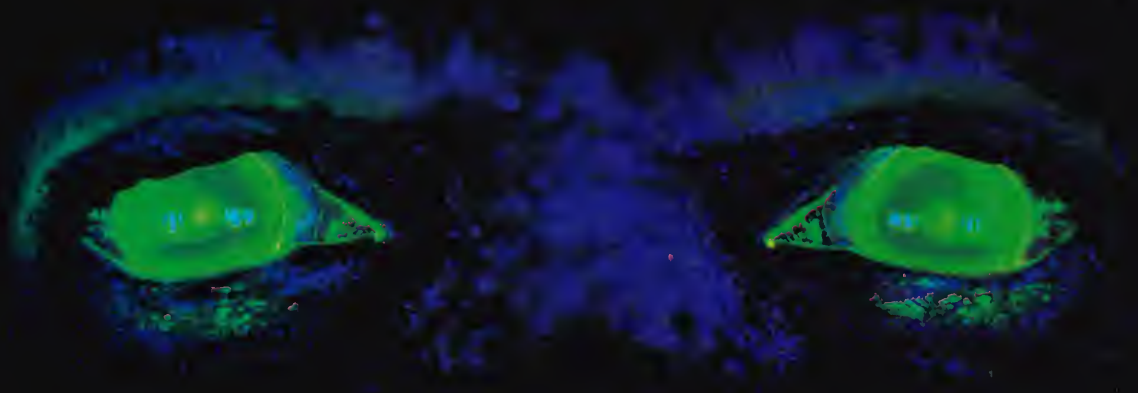
Would you do it differently today?

Definitely. We know exactly where we went wrong. The rules from the table were too sparse and some of the features were a bit static. Basically, the design was at fault. If the programmer did it now he'd improve it 100 times over. And graphically we'd do a better job too.

What are you working on now?

I'm researching another pinball game! It's a secret project that I've been working on for a few months. This one will definitely make people sit up and notice pinball; it's got a load of new ideas that everyone else has missed, two or three of them haven't even been seen in the arcade. For example, I'm working on getting two or three people playing on a table at once, each with their own ball. We'll have uneven surfaces too, and anti-gravity. Stuff you simply couldn't see in an arcade table.

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THE VISION THING

There's more to three-dimensional gaming than meets the eye, if you're lucky enough to win a pair of SimulEyes VR glasses in our top competition.



You're feeling a little flat today, aren't you? That's why we've teamed up with Oregon, the hi-tech hardware retailer, to bring you the chance to win one of five pairs of Stereographics's SimulEyes VR glasses. This fetching piece of eye-wear, which looks just as good on the beach as it does in your bedroom, would normally cost you £120. With the price of Post Office stamp currently pitched at a hefty 25 pence, that's a saving to our winners of £119.75!

But why do you need the SimulEyes VR glasses? Face it, today's 3D games might move fast, but you can't deny they're, well, two-dimensional when up on screen. You want to really feel that you're peering around a corner or over a wall. By donning a pair of SimulEyes VR and loading up a compatible game, your flat monitor is transformed into a holographic world, far more realistic than any sticker from a Cornflakes packet. You'll never look at your PC in the same way again.

THE SMALL PRINT

1. Answers please on a postcard, a stuck-down envelope or on the back of a Polaroid showing you in a compromising position without clothes on to: Star Micronics Competition, PC Review, Future Publishing, 30 Monmouth Street, Bath, BA1 2BW.
2. Don't forget to put your name and address on the entry. Make sure you get it to us before November 6, 1996, because that's when the next issue goes on sale. In the interests of fair play we will not accept any entries once we've come out with the answers.
3. This competition is closed to employees

- of Star Micronics, Future Publishing, their families, and anyone who intends to wear the SimulEyes in a public place. Which is a particularly nerdy thing to do.
4. No multiple entries. Writing in a different colour pen won't fool us.
5. No correspondence will be entered into over the results of the competition. The judge's decision is final.
6. The answer will be printed in our next issue, and the lucky winners' names will be announced in the following issue.
7. Thou shalt not covet the winner his SimulEyes. Nor his ox and not even his collection of PC Review back issues.

The Question

The SimulEyes VR glasses give you three dimensional viewing. But what do physicists term the fourth dimension?

Our partners in bringing you this great competition are the nice folks at Oregon. This firm specialises in supplying all kinds of interesting PC accessories including VR helmets, innovative controllers and Virtual Reality gloves. For more information, call Oregon on 07000 673 426. Or check out its Web page at <http://www.oregan.co.uk>.

How do they work

The SimulEyes VR glasses work by tricking your brain into thinking it's receiving true perspective information rather than staring at a flat monitor screen. To do this, the glasses have special liquid crystal shutters that rapidly alternate in sync with left and right views sent to the computer monitor. By firing the shutters at the right moment, the glasses ensure that the left eye only sees the left image and the right eye the right. When used with stereoscopic software, the system creates the same illusion of depth perception that you get with normal eyesight.

Of course, because the glasses require stereoscopic software to work you'll only get 3D views with games that support the SimulEyes VR glasses. Luckily, this isn't too much of a problem. Leading companies such as Novalogic, Interplay and Apogee are already standing behind the technology by building stereoscopic support into their games titles. And the manufacturer, StereoGraphics, which already dominates the professional end of the market now has every intention of striding into the leisure market as well. So, should you win yourself a pair of SimulEyes, games should come in thick and fast for you to enjoy them.



KNOW A GOOD TIP OR TWO? SHARE IT WITH THE WORLD AND BE THE SAVIOUR OF MILLIONS — BY WRITING TO US AT PC REVIEW, FUTURE PUBLISHING, 30 MONMOUTH STREET, BATH BA2 2BW. OR E-MAIL US AT PCREVIEW@FUTURENET.CO.UK.

PLAY TO WIN

We all like a challenge, but there are times when the chips are stacked against us. Help is at hand in PC Review's Play to Win tips. Phew.

Afterlife

At last you can pep up the ever so slightly lacklustre LucasArts god sim, *Afterlife*, with the following couple of indispensable *Sim City 2000*-style, world-destroying cheats. All you have to do is type them in during your game to witness some startling, often life-saving, results:

\$@! : This one gives you a wallet-fattening

ten million pennies. However... if you type it in more than five times, the deadly Death Star will glide into view and attack your heaven or hell!

SAMNMAX : Type in this cheat three times (all in capital letters, mind) and you'll release Max the monster bunny, who'll then proceed to decimate your world.



Comix Zone

Beano, Dandy, Topper, Whizzer and Chips, um, Viz, erm, Comix Zone...

To reveal a cheat menu in this child's-newspaper-come-to-life action game, simply type **CAMERON** (in capital letters). Now go to the menu bar to select it, and have a fiddle with all sorts of in-game goings-on.



Hold it right there, creep! Leap from frame to frame causing more mayhem.

Battle Arena Toshinden

Not only a top fighting game, but also blessed with some rather neat cheat codes. We suggest you type this lot in when confronted with the main menu at the next available opportunity.

GIMMEJIM: Play as hidden boss character Earthworm Jim (yes, that Earthworm Jim) by typing in this code.

VIRTUAL1: Enables the rather interesting first-person-

perspective view. Now you can literally look your opponent in the eye while you duff him up. Interesting, but thoroughly impractical.

FUNNYHEADS: The famous Big Head mode. Where the fighters heads swell to thrice normal size for no other reason than it looks quite silly.

LIFEISUNFAIR: Instant access to the special moves on the number keys.



Of all Sofia's special moves, perhaps the most special is the way she manages to contain herself within her outfit.



This chap's party piece involves feeding a blue garden implement into one ear and out of the other. Ouch.

Johnny Bazookatone

It might look as slick as the wake of a fractured supertanker or move as fast as a fiddler's elbow, but seeing any other level than the first in this frustrating platformer can be a task of suicide-inducing proportions. Put the gun down, son. Let these codes do the hard work for you.

Level 1 (Prison):

ZARTACLA

Level 2 (Hotel):

RINGMYBEL

Level 3 (Kitchen):

SCRAMBLED

Level 4 (Hospital):

ANASTHETIC

Level 5 (Penthouse):

ETAGSLLEH



How about that for a blue rinse?

Witchaven 2

Which Haven? The holiday home review mag? No? Sorry. I'll shut up now and get on with revealing the cheat codes...

MARKETING: Awards you with maximum everything

EXPERIENCE: Gives 10,000 experience points

KEYS: Gives you all the keys

WEAPONS: Gives (amazingly) all the weapons

ENCHANT: Gives you just the 'magic' weapons

ARMOR: Help yourself to 150 armour points

SHIELD: Awards the Midlean shield

SHIELD2: Gives the Ciraen shield

SPELLS: Gives a bizarre nine of each spell. Nine?

MAGICARROW: That'll be the magic arrow

FIREBALL: Have a fireball

FREEZE: Or a freeze spell

NUKE: Or would you prefer a nuke?

SCARE: Or a scare

NIGHTVISION: Or how about night vision?

OPENDOOR: Oh dear, this is getting very predictable

POTIONS: Again, a magic nine of each potion. Nine??

HEALTH: Health boost

STRENGTH: Strength boost

CUREPOISON: Gives the 'cure' to a 'poison'

INVIS: Renders you invisible

RESISTFIRE: Now you can 'resist fire'

SHOWMAP: Shows the complete map

LEVEL??: Where ?? is the level number you require



Kick Off 96

Football violence is one aspect of real-life football that for some reason hasn't made into a football sim... until now. Try out this gruesome cheat for the CD version of *Kick Off 96*.

First you've got to perform a really dirty tackle on an opponent. When he leaps up to have a go at you, the scene is set. Press these pairs of buttons simultaneously as quick as you can.

Up + Shoot

Down + Shoot

Left + Shoot

Right + Shoot

And finally any diagonal direction and Pass.

Now pressing each diagonal causes your player to perform a different,

highly violent act on the other player. Punch-ups, head decapitation... the choice is yours.

Now correct us if we're wrong, but that looks more than a little illegal to us. An early bath beckons.



Return Fire



Level codes.

They're just fantastic, aren't they? Now there's no need to get dirty doing all that horrid war

business. And using them you can leap to whichever level takes your fancy. Super. First let's look at one-player games...

LEVEL PASSCODE

2 Umbrella, Bird, Butterfly, Flower

3 Face, Teapot, Rabbit, Umbrella
4 Rabbit, Umbrella, Bird, Bird
5 Flower, Umbrella, Rabbit, Teapot
6 Bird, Teapot, Butterfly, Butterfly
7 Bear, Bear, Clover, Bird
8 Rabbit, Teapot, Umbrella, Heart
9 Clover, Butterfly, Bird, Heart
10 Heart, Butterfly, Teapot, Heart
11 Umbrella, Umbrella, Bird, Flower
12 Flower, Teapot, Clover, Butterfly
13 Heart, Umbrella, Clover, Heart
14 Rabbit, Face, Flower, Clover
15 Rabbit, Face, Bear, Bird
16 Flower, Umbrella, Bird, Rabbit
17 Flower, Bear, Heart, Umbrella,
18 Face, Bird, Heart, Clover

AND NOW FOR TWO-PLAYER GAMES.

LEVEL PASSCODE

2 Butterfly, Umbrella, Bear, Heart,
3 Bear, Rabbit, Flower, Clover
4 Umbrella, Heart, Clover, Flower
5 Umbrella, Bear, Rabbit, Heart
6 Teapot, Bird, Butterfly, Teapot
7 Heart, Flower, Clover, Butterfly
8 Heart, Bear, Rabbit, Heart
9 Bear, Rabbit, Clover, Flower
10 Butterfly, Face, Umbrella, Clover
11 Bear, Flower, Face, Flower
12 Teapot, Bear, Flower, Umbrella
13 Heart, Bird, Flower, Clover

14 Face, Bird, Clover, Teapot
15 Teapot, Bird, Clover, Bear
16 Umbrella, Teapot, Bird, Flower
17 Face, Bear, Rabbit, Flower
18 Clover, Clover, Clover, Clover



Death cackles as another of your toy cars is cruelly dispatched to the great toybox in the sky.

Star Rangers

Howdy partners (cue sound of sputum hitting spittoon), intergalactic varmints raping your cattle and rustling your women? Well, next time you ride the range, make sure you've packed these cheats in your saddlebags along with your beef jerky and chewing tobacco. You'll run the critters out of your galaxy in next to no time. Yee-ha!

Just type JAVA during your game then take your pick of these honest, god-fearing cheats.

SHAZAM: Invincibility

VITAMINZ: Refuel and full ammo

SCOTTY: Infinite warping (sounds nasty)

CAMEO: Warp autopilot

DUST: Fly through ships and objects

ISEEU: Shows enemy units on the map

BOXES: Enables target boxes

BOGONS: Draws spooky faces in space

ZOOMERZ: Increases game speed

VOIZIS: Instant mission victory

VOIZIF: Instant mission failure

VOIZI?: Mission select. Where ? is mission number 1 to 10

VOIZI*: Mission select. Where * is a symbol from ! to * to give missions 11 to 18

Rise 2: Resurrection

Kerrrunch! Ping! That's the sound of two robots knocking seven shades of shine out of each other. Create your own personal cacophony with the following special moves for each of the main characters.

CHROMAX

Drill dash: [Toward], [Toward], [Toward], [Kick]
Head throw: [Away], [Away], [Away], [Punch]

CRUSHER

Acid spit: [Away], [Away], [Away], [Kick]
Dive: [Toward], [Toward], [Punch]

CYBORG

Mid-air fireball: [Toward], [Toward], [Punch]
Shoulder barge: [Away], [Away], [Toward], [Kick]

DEADLIFT

Sword charge: [Away], [Away], [Toward], [Punch]
Teleport: [Toward], [Toward], [Kick]

DETAIN

Headbutt: [Down], [Up], [Punch]
Three-hit chaos: [Toward], [Toward], [Punch]

GRILLER

Pagga to the bone (finishing move): [Toward], [Toward], [Toward], [Punch]
Slap attack: [Away], [Toward], [Toward], [Punch]

INSANE

Bat attack: [Down], [Down-Toward], [Toward], [Kick]
Iceball: [Down], [Down-Toward], [Toward], [Punch]

LOADER

Headbutt: [Down], [Up], [Punch]
Lightning: [Toward], [Toward], [Down], [Punch]

LOCKJAW

Electrocute and Fry (finishing move): [Away],

[Away], [Toward], [Punch]

Mid-air Missile: [Toward], [Toward], [Punch]

NECROBORG

Flying Punch: [Down], [Up], [Punch]
Lightning: [Away], [Away], [Away], [Punch]

PRIME-8

Ground bash: [Down], [Down], [Down], [Punch]
Barrel roll: [Down], [Up], [Kick]

ROOK

Jet kick (mid-air): [Toward], [Toward], [Kick]
Kick repeatedly: Hit [Kick] several times quickly

SALVO

Flamethrower: [Down], [Down-Toward], [Toward], [Punch]
Knife: [Toward], [Down-Toward], [Down], [Punch]

STEPPENWOLF

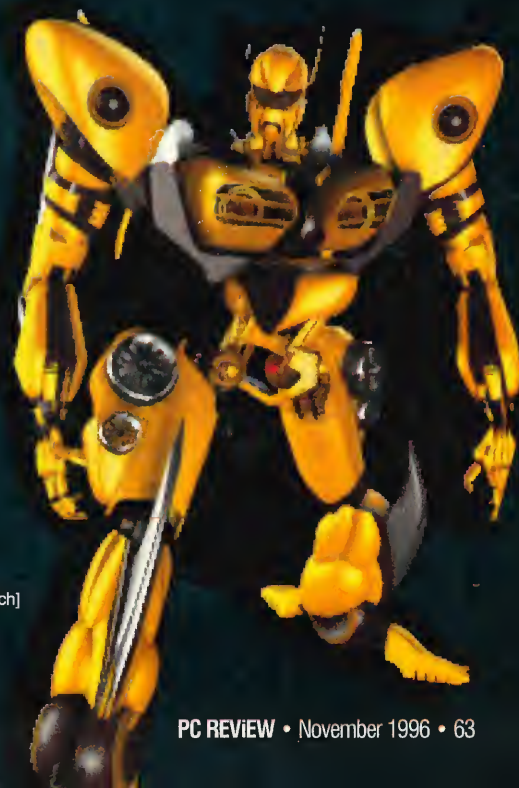
Guns: [Away], [Away], [Away], [Punch]
Swandive: [Toward], [Toward], [Kick]

SUIKWAN

Flaming kick: [Toward], [Toward], [Kick]
Flaming-sword strike: [Toward], [Toward], [Punch]

VANDAL

Buzzsaw attack: [Down], [Down-Toward], [Toward], [Punch]
Jet kick (mid-air): [Toward], [Toward], [Kick]



"Ultimately, the reason why you should buy Gene Machine is that it will make you laugh." – PCR58, August 1996.

GENE MACHINE

Combat the Gene Machine with part one of our complete solution. And read the concluding instalment next month.

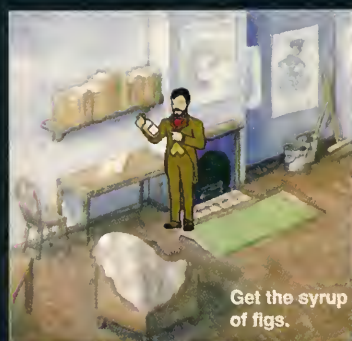
Part one

- 1** You begin at the station. Walk towards your taxi and ask the cabby to take you home. On arrival, leave the cab, and enter the house.



Inside the home of a gentleman.

- 2** You'll now meet the cat. Take the letter from the doormat, open it and read it. Later on you can visit Mirabella. Once in the house, examine the ornament you will sell at the Scientific Institute, which you can also visit later. Enter the lounge. Obtain the *Old Sporting Life* and the empty cigar case. Open it. Go to your bedroom and take the key. Go to the study, open the drawer with the key and take the deeds to the house. Also take the artefact. Enter Mossop's quarters and steal his whiskey and syrup of figs.



Get the syrup of figs.

- 3** Search through your wallet three times until it's empty. Now remind Piers of his club membership card by looking at it, giving you the option of going there. Speak to Mossop about Pubs – now you can go to Whitechapel.

Leave the house and go to the station. Once there buy the latest *Sporting Life* from the paperboy. Be driven to the docks.



"Aye, by my reckoning you're definitely taller than the little bloke..."

- 4** Speak to the local harbormaster about the location of Captain Nematode, which he won't know. He'll tell you of a strange place, Atlantis, and how it's rumoured to be in the 'Panther's Eye'.

Leave this sailor's hideaway and go to the club. Use your membership card to enter the club. Walk through to the Club Room and interrupt the Earl by speaking to him. Find out what drink he wants. Enter the room with the butler. Sneakily place Mossop's syrup of figs in the Earl's port, then tell the butler of the Earl's request. Steal the snuff in this room before taking the spiked port to the Earl. He drinks his port; make a quick exit. The Earl is obviously not a working man. Now steal his calling card.



"More figs, m'Lord?"

- 5** The butler slips up on the Earl's balls. Move to the left side of the room. Speak to the club members to initiate a bet. *Before* doing so, make sure you select the 'ship chartering' options. Use the deeds to your house as a collateral against a steamship. Show the *New Sporting Life* to the members who just can't resist such seemingly good odds. Leave the club.



All London lies before you...

- 6** Go to Buckingham Palace. Enter by showing the Earl's calling card to guards. Enter the Throne Room, and talk to the Queen about the threat to British Empire. Ask her for a royal warrant, then a letter of recommendation.



The British Empire can always use a little portly bloke.

- 7** Leave the Palace, and go to the Scientific Institute. Once inside the museum, use the artefact as a way to convince the Curator you are a respected scientist. In the Exhibit Room meet Professor Tipple.



Life before Quake.

- 8** Take one of the blank computer punchcards, and go Home. In the Hall, show the punchcard to the cat. Go back to the Institute. In the Exhibit room, put the mauled card in



"The English vice please..."

the computer and it will crash. Professor Tipple will now let you go to his house.

Be taken to Tipple's house. Enter his lab. Talk to the professor, who asks you for a ploughman's lunch, vitriol and a remote control for the robot. The vitriol is in the back right of the lab on the shelf and the remote, back left.

Leave the house and go to Whitechapel. Enter the brothel (left building). Show the letter of recommendation to the receptionist. Walk up the stairs, enter the room and get ready for some lewd conduct. On second thoughts, she is called Dollymop. Talk her into letting you take her camera.

9 Leave the brothel and go into the pub. Once in the saloon, talk to Grease Monkey (grubby man lunching at left of bar). Give Grease Monkey your handkerchief. He wipes his hands. Take it from him. Ask the Barman for some ploughman's lunch. He refuses as you're not a working man. Speak to the Barman about what defines a working man – to drink a 'man's' drink. Order some Scrumpy from the barman.



10 Drink it, then go ahead and buy a Ploughman's Lunch. Leave the back streets of Whitechapel and go to Mirabella's house. Go to the back garden and ask Mirabella if there's anything she wants. Enter the lounge and tell Gertrude to make some tea. Go outside, then inside, when it will be made. Use the slippery handkerchief to make a very slippery teacup. Put the cigar-like cake in your cigar case, and take the tea to Mirabella.



"You can't fool me Guvnor, that's no gun, it's just your fingers!"

11 Just by the left side of the arch to the garden is catnip. Find it and take it back with you when you return home. Once there, give the catnip to the cat, which will stop playing with the mouse.

Take the mouse, go back to Mirabella's garden and show the mouse to her. She will be so surprised, she will throw her hands up, and her wedding ring will fly right off – how convenient for you. Pick the ring up off the floor.

Go back to the pub at Whitechapel and walk through the main saloon down to the cellar. Upon meeting the Forger, give him the engagement ring in payment for some forgery. Give him your copy of *Old Sporting Life*, and the *New Sporting Life*.

12 Leave the pub then come back in. Take the forged *Sporting Life* and leave to go to the club. Go in and win the bet for the steamship by showing them the forged paper.

Go to the Professor's house, and give him his ploughman's lunch. Show

him the vitriol and the remote control. Tell him your scientific reason for going to the moon is to see the Panther's Eye. He says you will need a camera (which you already have), and some flash powder. Make this by adding the whiskey to the snuff. Show the camera and the flash powder to the Professor.



13 Put on your bravest face and go where no Victorian has been brave enough to venture before. The guidance system breaks down, due to an extra person. At this point you must take the hammer and break the oxygen pipe with it.

14 Click the porthole and align the rocket with the moon by placing right hand lever one from the top. Align the moon in the centre of the window using the other levers. The other two will not stay in position if the right hand lever is not correct.

Now place the oxygen pipe on the alignment controls to hold them in place. You must click on the controls to do this. Take the spade, and spacesuit. Ask the Professor if you can have the cheese extractor. Click on the exit door. The rocket will now land on the moon.

Get out of the rocket, and enter the cave to your right. Once in, you must remote control the robot through the hole and guide him through the maze in the cave from left to right. He knocks over the stalagmite to bridge the chasm and enable you to cross. How fortunate. Walk over this bridge and use the spade on the ground. Take the moon rock from the hole in the ground. Use the cheese extractor, to extract the Phosphate.

Part two next month





"The best PC game ever made. A perfectly-sculpted, grotesque, visceral, nail-biting extravaganza from start to finish, single or multiplayer... with a decent supply of patches, upgrades and weapons you'll never need another action game" – PCR60, October 1996.

QUAKE

Last month we brought you all the secret areas from the second episode of Quake, and now we present the hidden bits from episode 3 – The Netherworld. Hold tight!

Part Two

E3M1: TERMINATION CENTRAL

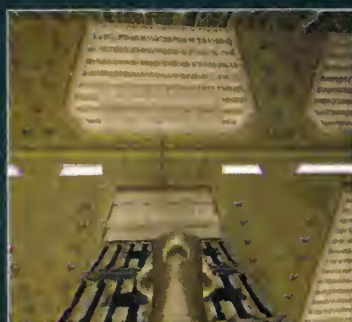
1 Head to the big platform over the toxic pool, get the Quad Damage, then go to the other side and hop off into the toxic sludge. Swim downwards until you see an opening in the wall, towards the floor. Head through it to get the loot.



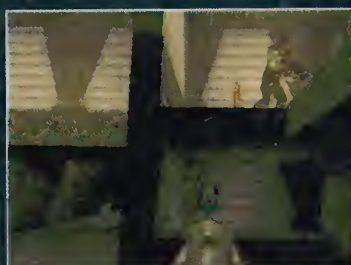
2 On that same platform, just as you enter, hop off the side between the two stairs on the side of the platform. Look around and you'll see an elevator taking you up to the top of the platform structure.



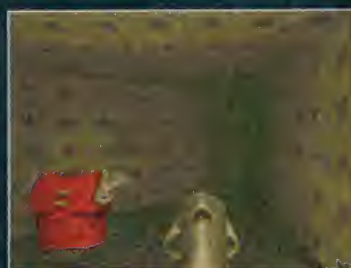
3 With your back facing the gold door, go through the opening in the metal boxes ahead. Hop up to the highest point and shoot at the damaged part of the wall.



4 With your back facing the Gold Door, go past the metal boxes, hop to the left of the elevator and leap into the shadows ahead. You'll find a thin ledge on the wall in the shadows, once you have stepped on it, turn left to get the goods.



5 You're at the start. Go down the elevator and down the first ramp on your left, then shoot the darkened part of the wall on the right. It will open, revealing a Red Armour.

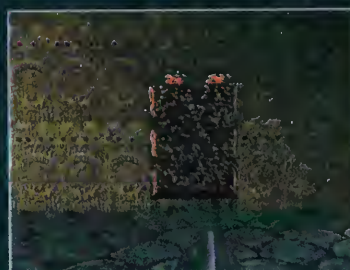


E3M2: VAULTS OF ZIN

1 Turn down the first passageway to the left. There will be a passageway to the right, just where you jump to the Grenade Launcher. After getting the weapon, turn around and look down. Just past the lava near your feet are some zombies and a 100 health box.



2 Below the Crucifixion wall, there's a side room with a button. As you enter this room, you'll spot a texture on the right that looks a bit wrong. Shoot it and open up a teleporter to the walkways above.



3 Shoot the wall just to the right of the Crucifixion. It reveals an area containing the invisibility ring.



BONUS

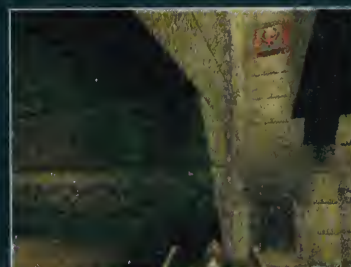
Find the room where you drop down on to the button surrounded by lava. If you shoot the small skull on the wall it will give you a Quad Damage, but it doesn't register as a secret.



BONUS SCREEN

E3M3: THE TOMB OF TERROR

1 After heading up the stairs that come out of the lava, look up to the right and you will see a big "Q" switch. Shoot it, opening up a teleporter below. It takes you above the lava room to the waiting red armour.



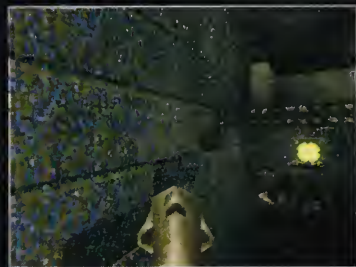
2 Go up the stairs that come out from the lava, and turn right at the crossroads. There's a room at the end of a short hall containing a small strip of water. Dive in to collect 100 health at the bottom.





E3M4: SATAN'S DARK DELIGHT

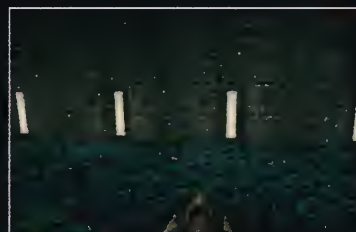
1 After activating the bridge to collect the rocket launcher, continue to the other side. After taking the corner to the left, and heading down the ramp, you'll notice a ledge above you. To get up there, go up the other ramp and out of the room. On the right side of the ramp on the wall, you'll notice what look like blocks that function as stairs. Walk right up them.



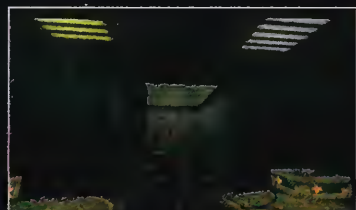
2 As you ride the platforms in the water chasm, it goes past several ledges. Jump on the small platform (the last one to pass before the platform reaches the button that raises the bridge) and walls will open up to reveal a multitude of gear.



3 Inside the area from secret 2, shoot each of the four lights at the base of the wall, on the left side of the room. It will open a small closet with a top bit of kit.



4 After you ride the platforms and raise the bridge to get to the other side of the water chasm, you'll step out on to a rising platform that takes you to a small square room. You'll notice that one of the six lights is yellow, not white. Shoot the sucker, and it will open a door to an Invulnerability item!

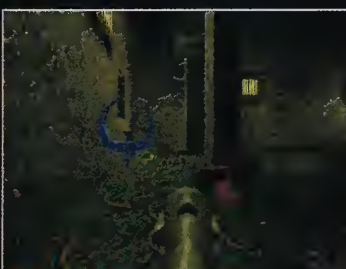


BONUS

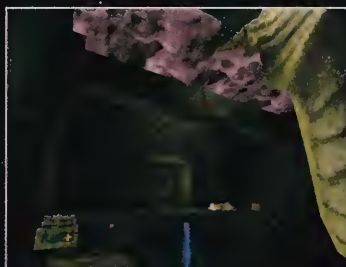
After heading down the long stairway to the Lightning Gun, turn around and look behind the stairs. There are two ledges looking over a hole that takes you to this episode's secret level.

E3M5: WIND TUNNELS

1 After getting out of the first of the three tunnels, climb the stairs and head through the passageway. In one of the corners of the passage, you can drop through into a small room with goodies and a teleporter taking you to a Quad Damage.



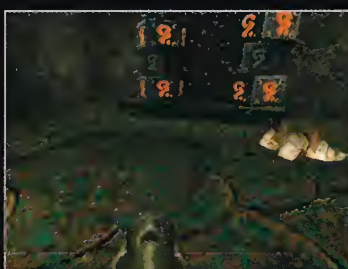
2 When you are on the ledge above a second ledge – which is itself above a pool – you have to go to the far side of the ledge from the entrance and turn back to face the entrance. If you look up, on one of the girders overhead you'll see a Quake symbol. Shoot it, and a door opens next to the entrance.



3 Now you have to locate the room with a staircase leading out from it, a small wind tunnel overhead, and a moat leading right around the room. Leap into the moat and then go under the room. The pool here has two exits – and one of them leads to a secret room.

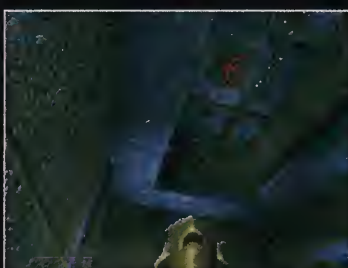


4 At the very end of the level, by the exit teleporter, shoot the floor in the centre of the room and it will miraculously open up. Jump in to the resulting crater, being sure to miss the teleporter under the hole that opened up. Get the nails.

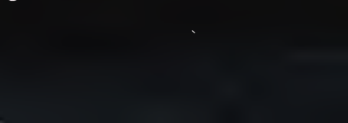


E3M6: CHAMBERS OF TORMENT

1 In the room next to the area with the silver key, shoot the button on the ceiling and head through the newly opened door. You'll find armour and a Quad Damage.



2 Just after the silver door, turn to left and take the elevator to the top. On the ceiling above the elevator is a button. Shoot it to open up the bars behind you, then jump on the girders below.



E3M7: THE HAUNTED HALLS (SECRET LEVEL)

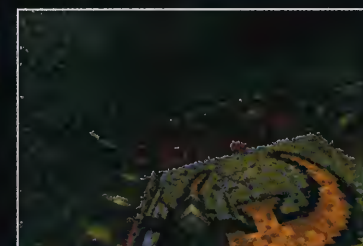
1 Go through the area with the yellow armour. You'll come to a lift (the one that takes you up to the "box" with the vore in it). Go up the lift, then jump back off and walk into the hole underneath the lift. You'll pick up a Health box.



2 Back in the room where the yellow armour is, there are two grates to the right. One of them has a small landing in front of it. Shoot it and pick up the Quad Damage.



3 After you run through the nail trap, you come to a button on the wall. Look up above the ceiling and you'll spy a small Q button. Shoot it to open the door to armour and a Quad Damage.



4 Run through the nail trap, and this time press the button on the wall to the left to lower the elevator. Go up to the bridge on the upper level then look down to your right. See the cage? Jump on top of it and a door will open in front of you. This leads to an Invulnerability.



Concluded next month

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SCALA

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MAKE GREAT MUSIC!

Expensive studio gear? Tchah! Expensive software? Pish and tish! You can make great music with your PC and our demos of Jammer Hit Session and TechnoMaker.

It's true. You don't need to spend weeks in £100-an-hour studios to make great music. S'Express, LFO and Robert Miles all recorded their huge hits with next to no money. But you already have a PC, a literal boombox of musical potential, and with our great software you can let your sonic creativity out to roam immediately. Oh yes.

On this page we introduce you to Jammer Hit Session, given away on CD Review and worth £39.95. The next spread covers four different genres – rock, dance, funk and techno – and how you can create them. Finally, on pages 72 and 73 we let you into the secrets of designing your own home studio. Enjoy!

The *Jammer Hit Session* is a program that writes music in a variety of styles given a little guidance from you. The main screen is divided into two: the Track Window, which displays how many tracks are active, their volume levels, what sort of part they take in the band (Percussion, Melody, Rhythm part) and so on. Below this is the Measures Window: this shows the length of and the chord changes in your music. Decorating the borders of these are many self-explanatory icons, doubling for most of the options available in the pull-down menus. So if you want to find a guitar in the Track Window, hit that icon to jump to it.

Creating music without the misery couldn't be simpler. Load up a style from the 200 on offer, hit the Comp button, and listen to what *Hit Session* produces – eight bars of music, with everything in time and no bum notes. If you don't like the chord progression *Hit Session* comes up with, just hit the Comp button, and *Hit Session* will come up with another. And another. Open up the Progression editor and you can choose the key in which *Hit Session* composes chords, if the section has a chorus or verse feel, and whether or not chords are straight (as in pop music) or more complex (as in jazz).

There's also a quick way of writing or editing your own chords in your song. Simply

click on a part of a Measure, then select the chord type and key you want from the Progression editor's matrix, and then move to the next place you want a chord change. Bingo, your chords of choice appear in the Measure window. No need for contorting your fingers on a MIDI keyboard here.

TechnoMaker, PC Review's second giveaway demo, enables you to compose up to 12 seconds (even more with the full version) of blistering techno or drum'n'bass. Pick a sample of two, put it on a track, set the levels and, bang, you're sorted for PCs and whizz.

But enough talk! There's tons of help available to get you going. Yes, there's on-line help, and yes, there's a built-in tutorial to work through. But even better than that, PC Review is pleased to present you with four walk-through tutorials to unleash the first-class composer you know you have lurking inside you. Read on to discover how to use *Hit Session* to write rock, dance and funk, and how *TechnoMaker* can give you a brief lycra-clad glimmer of the techno world...

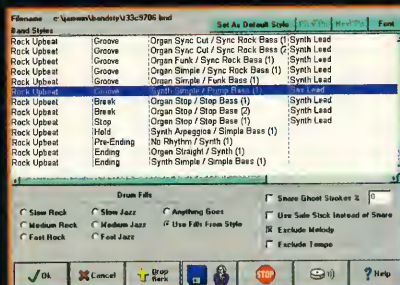




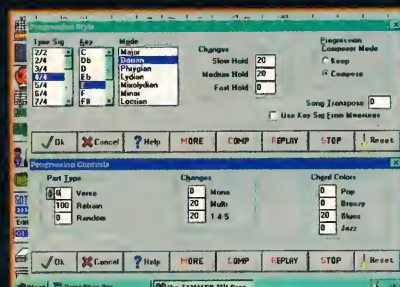
ROCK

Rock music is not easy to define. In the same way that ballroom music is in fact a whole bag of styles from tango to foxtrot to cha-cha, so rock music has split into a broad number of substyles. It began, arguably, with rock'n'roll – Bill Haley, Elvis and all those other bequipped heroes – having grown out of rhythm'n'blues and jazz music. Since those teddy boy days we've lived through the progressive rock of Yes, the heavy rock (or metal) of Deep Purple and Led Zeppelin, the West Coast rock of countless American Van Halen-a-likes, to arrive in a mulch of grunge, post-grunge, death-metal and skateboard hardcore hip-hop rock crossover. And a promising combo called Oasis.

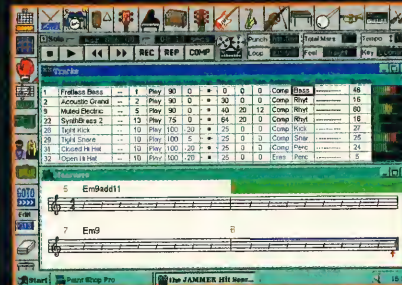
There are some elements that pervade all rock music. Electric guitars scream from its epicentre, driven by chunky bass guitars and real drummers with real drum kits. Organs, sometimes a piano, and a saxophone embellish the line-up. And whereas rock songs can be anything from a slow ballad to a Bon Jovi guitar solo-a-thon to 30 throat-tearing seconds of Napalm Death, one thing is essential: a jacket, preferably leather, though denim will suffice.



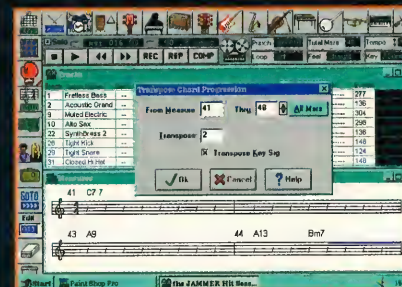
1 We'll go for a soft rock track, because, no matter what your soundcard, rock guitars sound cheesy. Load up the Rock Upbeat (Synth Simple/Pump Bass) style file – the default band is simple, leaving you room to add other instruments. Let's start by writing a verse with a piano and an electric guitar.



3 Find the alto sax and change it to Comp. Now click on the Punch icon, and change the Comp/record bars to 9 thru sixteen. Back at the Progression editor, change the Verse rating to 0 and the Chorus rating to 100. Comp that.



2 Hit the Progression Editor icon. Pick E as the Key and Dorian mode, hit the More button. Where it says Verse, change the weighting to 100. Go for bluesy chord colours (set to 50). Change the Action buttons to Comp, and Player buttons to Rhyt for the piano and guitar, hit the Comp button.

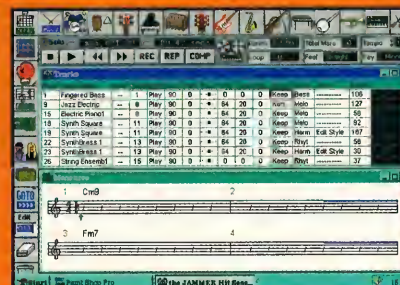


4 Copy the first 16 measures for bars 17 to 32. Drop the piano for the first (use Erase in the Action box) and take its volume down in the mix. For bars 33 to 40, record a stripped-down verse. For the last chorus shift up to F sharp. Repeat till fade...

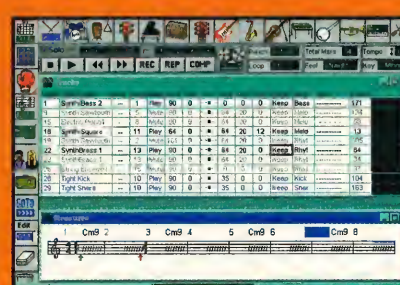
DANCE

Dance music, in its modern sense, is another genre with a myriad of forms. It encompasses everything from the ear candy of the Spice Girls to the bouncy drum'n'bass of Spring Heel Jack, from the stoned grooves of Black Grape to the lager-swilling chants of Underworld. Even that bleedin' Smurfs album. Ambient, hip hop, techno, pop, trip hop, acid, acid jazz, happy hardcore... the list is endless.

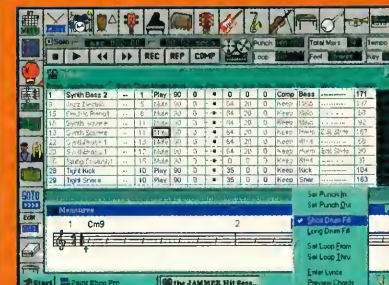
What defines such a far-reaching style? Rhythmic repetition, melodic hooks and artificial sounds – that is, synths and samples rather than guitars – and, ultimately, something with a groove; after all, you're supposed to dance to the thing. However, producing dance music with *Hit Session* isn't easy, as the styles supplied are quite conservative, and it is an American product (and we all know how suspect their musical tastes are...)



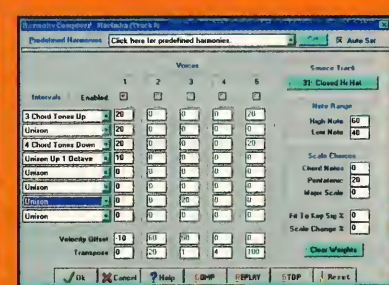
1 There aren't any bona fide dance styles supplied with *Hit Session*, but we can experiment with the Dance song (load up DANCE.CMP) and approximate something groovy anyway by taking small motifs and copying and pasting them.



3 Find bars 23 to 26 in the Synth Square (Melody) track. Copy to bars 25 to 28 and 29 to 32. Transpose the part up an octave: enter 12 in the Tran box. Keep recording a Rhyt part on track 22 till you find one you like, copy four times, then to bars 17 to 24. Leave bars 9 to 16. Still with us?



2 Mute all instruments except bass (change it to Synth Bass) and drum kit. Set up Punch to Record for two bars; keep Recording until you hit on a cool two-bar riff: copy 16 times. You can remove some drum fills – untick (er...) the fill.

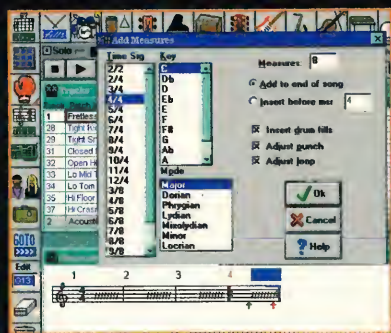


4 Select a marimba part, go to the Harmony composer. Set the Intervals to a combination of octaves, unisons and thirds, and the Source Track as the hi-hat – you get a fast sequence. Drop the velocity, then keep Comping till something gels. Sprinkle liberally around your track...

FUNK

And if you insist on deconstructing dance music to unearth its roots, you'll find a large slab of funk music down there somewhere. James Brown is arguably the king of funk – it's amazing to think that Get Up (Like a Sex Machine) dates from the mid '60s – but George Clinton of Parliament/Funkadelic has an equally valid claim to the throne. Funk propelled bands like Earth Wind & Fire and Heatwave through the 70s (and many an American cop show too), and in the 80s, those funky drum patterns were sampled by everyone and anyone to set the agenda for hip hop, swingbeat and many other genres, including drum 'n' bass.

Traditional funk consists of wah guitar, maybe a bubbling keyboard line, squiddy synth noises and a funkier than thou rhythm section of bass and drums. *Hit Session* is a veritable fountain of funk...



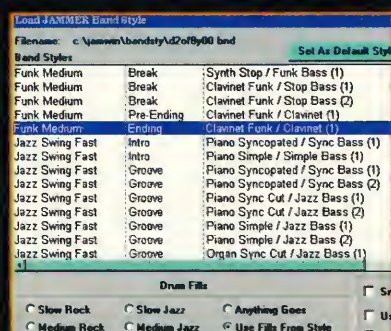
1 Let's approach this one with the aim of a proper intro, groove, and ending. Load up the Bass Funk Intro groove, set the Punch to four bars of recording, and hit Comp. Ppen the Add box, and plonk eight measures on the end.



2 Load up the Funk Medium Clav Funk/Funk Bass style, set Punch to record for bars 5 to 12, then Comp it. Now add a Clav break for eight, and write in your own drumfill at the very end of bar 20. Try erasing the drums between bars 19 and 20.



3 Copy and paste the verse bars (5 to 12) to 21 to 28. How about a synth melody? Comp until you find one. Play with the drumfills, and repeat those eight bars again at the end. Comp a few brass fills at the end of every fourth bar.



4 To close, a phrase. Hook the Funk Ending style, set your band parts to Comp, add eight bars to the end of the track, and Comp. Boom, several instant endings over four bars. Insert the one you like and delete the rest. Well done!

TECHNO

So if the dance styles of *Hit Session* didn't quench your disco lust, try *TechnoMaker* instead. No quibbling with what you're going to meet here: hard, uncompromising club grooves, the sort formulated and promoted by the likes of Inner City and Derrick May and now permeating every club or dance event going, plus – and a bit of a surprise – the cutting edge of drum'n'bass, or jungle, as Data Becker like to call it.

This demo version of *TechnoMaker* gives you just 12 seconds to cram as much kick, snare and hi-hat action as possible. Add a few effects, a sub-bass boom and maybe a little crowd ambience, and you're cookin'. You don't need much in the way of material, and you only have to build it up slowly, to sound credible. There's a demo mix included if you get stuck. Hold tight, people!



1 You need a solid backbeat, so pick the punchy Kick A1 from the Samples/Drums menu and place it on Track 1. For bars 5 to 8, either repeat that operation or, using the left and right mouse buttons in deft combination, copy the part a couple of times.



2 Let's delete the opening kick and put a snare there (give the track some tension). Copy and paste the snare tracks as before – Snare A1 works well. Place HiHat A1 below it, noting the offset of three beats. Bring in a Clap at bar 4 – go for Clap 1.



3 Add a different hat pattern at bar 8. Drop Low 1 (the Effects menu on track 5); knock the mixer slider up to max. Now hit the Rec Mix button (bottom centre), take the Track 2 slider down, and hit play, raising the slider as you approach bar 4.



4 To hear it, activate Play Mix before playback. Add low level Crowd noise (from the Bonus menu) and a special effect from the Effects menu (FX 6 is cool), perfect your mix as in step 3, and presto, you have the makings of a club classic...

SO YOU LIKE JAMMER HIT SESSION?

Et Cetera

Distribution has agreed a top upgrade offer, to enable you to get your hands on *Hit Session's* big brother *Jammer Pro V2* for Windows. The upgrade features a 256-track studio for creating, arranging, editing and mixing your own compositions. Extensions style editing is also featured for all the Composer modules, including Progression, Bass, Rhythm, Melody, Kick Drum, Snare Drum, Percussion, Drum Fill and Harmony.

On top of that, 200 band styles are included – such as fast or slow jazz or blues, pop, dance, waltz, country swing, latin and much more. 50 drum styles include assorted drum beats and fills for rock, blues, jazz and more. Should you tire of these, there's optional drum and band styles discs available covering just about any genre you care to name.

The Pro V2 for Windows Upgrade costs just £45 including VAT, postage and packing – all you need to do is call 01706 228039. Have your credit card ready.

SET UP YOUR OWN HOME STUDIO

OK, so maybe you've mastered the easy-does-it software like *TechnoMaker* and *Jammer*. Perhaps you want a setup that's a bit more flexible and a whole lot more professional. Believe it or not, your PC is good for more than just fun noise-making. It can also become the centre of your ultimate home recording studio. Have a look around PC Review's brand-new studio and check out all the kit you need...



1 Modem

Many music companies have their own bulletin boards or Web sites from which you can freely download instrument patches, updated drivers, MIDI files, music programs and samples. Now that many Web pages are starting to incorporate music, it's even a new way for you to promote yourself and distribute your own sounds.

2 INSIDE YOUR PC AV Drive

If you're going to be recording audio direct to your hard drive, you'll need a drive that doesn't spoil your recordings with unwanted calibrations. An AV (audio video) drive is just the baby. They're also invaluable for writing your own CDs. We've got an internal model nestling inside our PC. See page 99 for more information.

Memory

This is a crucial resource for serious musicians. It enables you to have more programs running at once, but more importantly, it prevents Windows from spooling back and forth into virtual memory, which only works at the speed of your hard drive. 32Mb is a reasonable minimum now that RAM prices are so low.

3 CD Writer

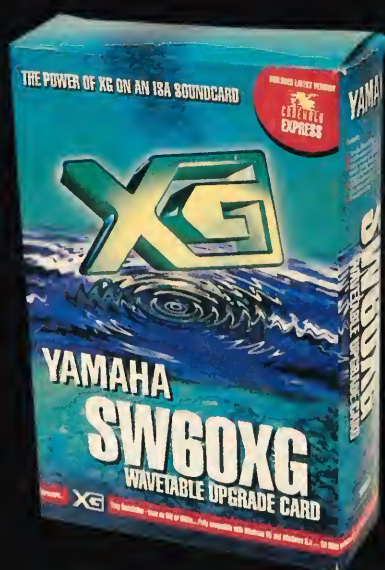
A CD writer is perfect both for archiving samples and MIDI files, and for making hard copies of your finished music. You can record a 74-minute album, at 44KHz in stereo in less than half an hour. Or you could store 650Mb-worth of samples in the same time.

4 Speakers

There's no point having all this cutting edge music gear then outputting your masterpieces through cheap £5 speakers. This spectacular set from Altec Lansing incorporates full Dolby Surround Sound and very impressive response across the full frequency range.

4 Cubase 3.0 XT

To record live music, you'll need software that will turn your PC into a sequencer. And they don't come any better than *Cubase 3.0XT*. In addition to its sequencing, *Cubase* also incorporates multi-track, direct-to-hard-disk recording, so you can record and mix vocals and drum loops too.



SW60

A super XG, GM, GS internal MIDI synth card that comes with nearly 700 great instruments. Better yet, it has loads of effects which can either be applied to the MIDI instruments or to a real-time microphone or CD input. It's a great effects box, and cheaper than a decent guitar pedal.



Tropéz Plus

Short of buying a dedicated external sampler costing thousands, this soundcard has the best sampling abilities and the lowest signal to noise ratio. It's made from decent components, so your recordings won't be marred by unwanted interference. It also has a damned good MIDI instrument set.

Jammer

Back to your humble beginnings. But just because you're making the bigtime with all your other groovy kit doesn't mean software like *The Jammer Hit Session* should be out of place. For instance, you could use it to make backing tracks – simply choose the style and the key, and it'll do the rest.



Printer

A printer is essential for printing your own sheet music, but it's also very useful for listing sequencer files if you want to take precise control of MIDI events and effects.



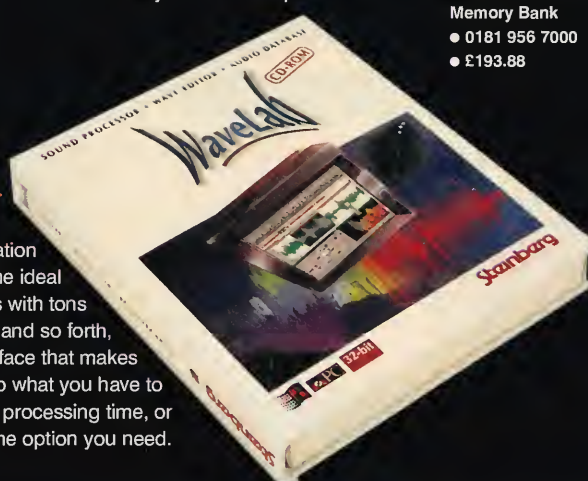
Controller keyboard

You'll need a way of playing your music into the computer, and this full-sized controller keyboard from Evolution is an inexpensive solution. It has no sounds of its own, but connects to your computer via your soundcard, then plays any MIDI instruments you have set up.



Wavelab

Sampling is the way forward. For quick and easy manipulation of samples, *Wavelab* is the ideal companion to *Cubase*. It comes with tons of effects like chorus, flanging and so forth, but it's the basic, minimalist interface that makes *Wavelab* so useful. You can do what you have to without waiting through hours of processing time, or hunting for ages to find the option you need.



KIT CONTACTS

CUBASE
Harman Audio
● 0181 207 5050
● £821.32

ENCORE 4
Arbiter
● 0171 379 5148
● £449

WAVELAB
Harman Audio
● 0181 207 5050
● £329

ACS 500
SPEAKERS
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Bat Software
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Compass Computer Group
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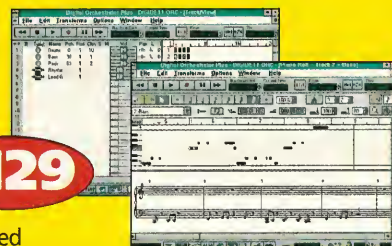
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MULTI-MEDIA



Oh God, my head is hurting. My brains might come oozing out of my ears any time now. Why? Because here at PC Review we've been testing our intellects with Mensa MindBenders and Mastermind. The challenges have been great fun too, as I hope you'll see from our review feature which starts right here.

But these two discs haven't been the only things to stretch our minds. Planet Earth and Women's Rights from the Times Perspectives series are both huge on information and come with demos on CD Review. Read our judgements, starting on page 82. And finally, rounding up the fun side of multimedia, we bring you Music Central, Coarse Fishing and the Simpsons Cartoon Studio. It's been a headachingly good month in our multimedia section. I hope you enjoy reading our reviews.

Garrick Webster
Deputy Editor
gwebster@futurenet.co.uk

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The most complex machine ever invented. And each of us has one. Amazing.

BATTLE OF THE BRAINS

The new Mastermind and Mensa Mindbender CD-ROMs literally head to head. Which one will strain our synapses?

The stark, blinding spotlight. The black leather chair. A frozen contestant distinguishable from a sack of potatoes only by his quivering, fearful disposition. And, of course, the firm yet cultured Scots tones of Magnus Magnusson. Mastermind is a British Institution.

Mensa, though not quite so well-known, is also an institution. Remember those tricky little intelligence tests on the backs of matchboxes? If you could solve them you were invited to send off for an official Mensa test and the possibility of joining their brainy club. Of the two, you're probably more

familiar with Mastermind. Year after year this, the most elevated of television quiz shows, has wheeled in the learned and meticulous stalwarts of trivia to see them competing for the coveted Caithness Bowl. Banal jesters like Jim Davidson and Bruce Forsyth might seem more personable, but Mastermind is serious business. No idiot can measure to Magnusson's steely no-nonsense air of authority. Add the bold horn music and polite applause after each round and the Mastermind atmosphere is complete.

This atmosphere is very accurately recaptured on the Mastermind CD-ROM from

BBC Multimedia. All 5,000 questions on the disc have been recorded by Magnus himself, along with all the more trivial banter of the show. Competing with up to three other players, you type in your name and choose a specialist subject. These fall under a dozen categories, including leisure and entertainment, history, the natural world, famous people, science and geography. Each main topic is itself divided into further specialised fields. Hence, history buffs can choose from refined subjects like World War 1 and 2, the Plantagenets, Military History, the Stuarts, the Tudors and so forth. Just like in the show, ▶



MASTERMIND

DEVELOPER

BBC Multimedia

PUBLISHER

BBC Multimedia

CONTACT

0181 576 3898

PRICE

£29.99

MINIMUM SYSTEM

486 DX50, 8Mb RAM, double speed CD drive, Windows 3.1 or 95

A very well presented and enjoyable disc. More questions would strengthen it.

PC REVIEW VERDICT

8

Here have sat some of the most meticulous scholars ever to walk the earth. Scary.

When you've typed in your name and sex, it's time to choose your specialised subject.

A final address from Magnus and our feeble attempts are rewarded with much applause.

FINAL SCORE	
FIRST CONTENDER Jo	12
SECOND CONTENDER James	16
THIRD CONTENDER Garrick	12
FOURTH CONTENDER Maria	16

The final scores: it's a draw between the winners, and a draw between the losers too.



The sought-after Caithness bowl is awarded to the winner at the end of the game.

Who's COUNTING

"Shakespeare used about 25,000 different words in his plays, the largest vocabulary of any writer of English. Goethe, the greatest German poet, is said to have used some 50,000 different German words in his writing, more than any other writer in any other language." – Mensa Mindbenders

GET SMART WITH MOZART

"Dr Gordon Shaw of the physics department of the University of California has claimed that listening to Mozart's music can stimulate the brain and increase the listener's IQ." – Mensa Mindbenders

▶ you answer questions from your specialised subject first. Then general knowledge is tackled with those scoring lowest going first. Satisfyingly, Magnus does indeed say lines like, "I've started so I'll finish," and "You may answer," if the final question is interrupted by the buzzer. Just about the only thing missing from the disc is his introductory description of whatever high-ceilinged historic hall the show is being held in. But then you can't expect even Magnus to know anything about your house, can you?

Mensa Mindbenders, on the other hand, is necessarily different in tone and style. After all, there is no ambience or feeling you can associate with the idea of taking IQ tests or aspiring to gain admittance to an exclusive society which accepts as its members only those who score within the top two per cent. Appropriately, the disc is rather plain in design.

When you start up you have the choice of classical, jazz or techno music, or you can pick silence. Three main categories of IQ puzzle appear: number puzzles, word

puzzles and mazes. The mazes section is probably the most fun. There are Mayan, Arabic, Celtic, Oriental and Perspective mazes to choose from, and the objective is to drag a blip through a maze as quickly as possible using the mouse. They get progressively harder as you go along.

The word and number puzzles are your typical Mensa fare. You've got the ones where strange Greek characters represent various values and you've got to figure out what number corresponds with the question mark. Then you've got the word pyramids where each horizontal row of letters must spell a word, as must the vertical row in the middle. The tricky triangles see you trying to find the relationships between the numbers in each corner of the triangles, guessing the missing values on the last one. In perfect prefix – or suffix – meanwhile, you get a list of words and must find the word that fits on the front of all of them to form new words.

If anything has you flummoxed, you can click the Give Up button to see the answer. Do so and a smarmy American voice will

say, "No pain, no gain," or "Hey, quitting already?" His tone is nearly as cheesy as the music. In all, there are 24 sorts of word and number puzzles and these should keep your brain straining for a good while.

If you're not familiar with Mensa and the IQ testing business, however, it's probably best to stop into the Fact File section. Here you can learn all about Mensa and how to join the 100,000 Mensans on the planet (if you're smart enough).

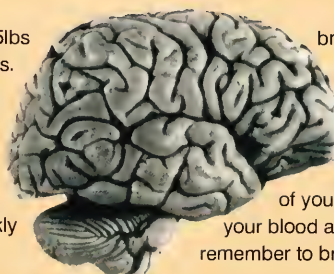
Coupled with this is a multimedia book section where you can read up on the brain, the nature of intelligence, chess, language, IQ, memory and other smarts-related topics. Despite conveying some interesting facts, this section is cold and dull and tends to take quite a narrow view of the meaning of intelligence. It takes as given that intelligence is a quality, but doesn't consider that it's only one of many qualities we might ascribe to a person.

Fortunately, Mensa is magnanimous enough to cite a few examples of people who had incredibly low IQ scores but

The Brain

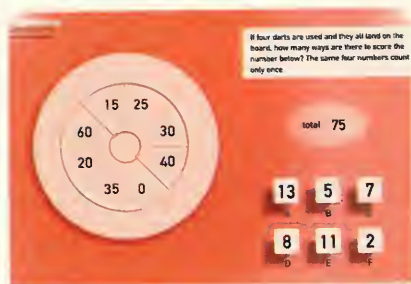
Ever wondered what's in your noodle? That 3.5lbs of gushy stuff is made up of about a trillion cells. One tenth of these – er, 100 billion – are neurons, or nerve cells, which pass electric pulses around the brain. If you've a normal brain, you should have about as many neurons up there as there are stars in the universe.

The surface of your brain looks like a wrinkly dried up old walnut. In fact, this is because our

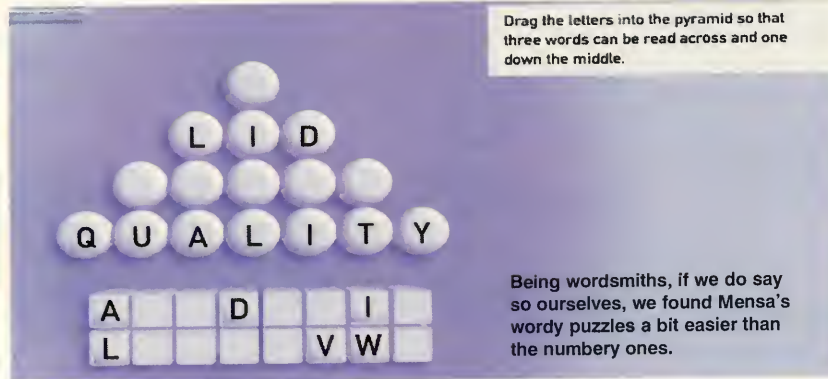


brain is the most developed thinking instrument in the animal kingdom. The surface of the brain is called the cortex – a very crumpled layer about 2mm thick. If flattened out it would cover about 10 square feet.

Your brain might comprise only 2.5 per cent of your total body weight, but it requires 20 per cent of your blood and oxygen supply. So it's essential that you remember to breath and stay well-fed.



Another one of those mind-bending maths puzzles we just couldn't be bothered with. Maybe you can do it. Sorry.



CD REVIEW

Next month, play *Mastermind* for yourself on CD Review

CD REVIEW

Selection of *Mensa Mindbender* tests

MENSA MINDBENDERS

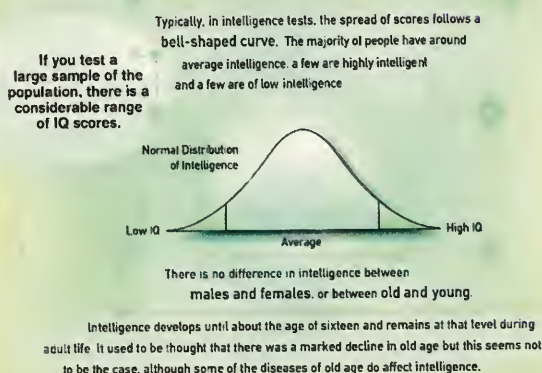
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Multimedia Corporation
PUBLISHER
Macmillan Interactive
CONTACT
0345 697008
PRICE
£29.99
MINIMUM SYSTEM
486/66, 8Mb RAM,
double speed CD drive,
SVGA, Win3.1 or 95

The testing puzzles and mazes are fun and compelling. Shame you can work through it so quickly.

PC REVIEW VERDICT



How far do people differ in intelligence?



That ever-familiar bell-curved graph of the population. As journoes we usually end up on the left-wing of this chart, unfortunately.



Perhaps the simplicity of the interface and design is meant to offset the difficulty of the questions. An ironic touch, wouldn't you say.

exhibited exceptional intelligence: "An 11-year-old seen by specialists in 1937 could name the day of the week of any date between 1880 and 1950. He could add a dozen double numbers as fast as they could be called out, spell forward or backward with equal ease, play Dvorak's Largo by ear, and sing all of the aria Credo and the duet Si Pel Ciel for Otello. He was doing poorly at school and IQ tests gave him a score of 50, putting him in the lowest one percent of the population."

With that in mind you shouldn't feel so humiliated if you don't fare well on the 'fun' IQ tests. Eight are available, and range in length from 20 minutes to an hour. When you're done, you get a 'fun' IQ score which you can then boast to all your friends about... or not. You should do better in the tests if you've familiarised yourself with the puzzle styles and objectives in the non-test sections beforehand.

The key difference between the Mensa and *Mastermind* discs obviously lies in the type of intelligence they test. *Mensa Mindbender's* IQ puzzles obviously involve logic, recognising relationships and quick calculation. *Mastermind*, on the other hand, tests your knowledge, memory and intuition.

The flaws of these discs, however, are surprisingly similar. We tested them extensively in the office with everyone in the team having a go at being the *PCR* smartypants. Within two hours however, Magnus was

asking us questions we'd already heard - particularly in the specialised subjects. And the same thing happened when we were playing with the word and number puzzles on the Mensa disc. In some sections we worked through all the puzzles quite quickly and were then cycling through ones we'd already done. Furthermore, we managed to find certain correct answers in some of the word puzzles which the disc said were wrong.

This repetition obviously limits the working life of both discs. Wiping the floor with all comers just because you've memorised all the answers gets boring after

a while and all the recreated atmosphere or multimedia presentations can't save that. Funny thing is, the stupider you are, the more value you'll get out of these discs.

Plenty of the puzzles in *Mensa Mindbenders* will keep you scribbling away with pen and paper, while *Mastermind* excels in social situations; get five or six people around the PC and everyone will be enthralled by its accuracy. This is really where *Mastermind* pips *Mensa Mindbenders* to the post. Its presentation is so slick that *Mastermind* has to be our Battle of the Brains winner. Both, though, will certainly be played in our offices during moments of repose when we're not busy on the magazine and cover CD. (GW)



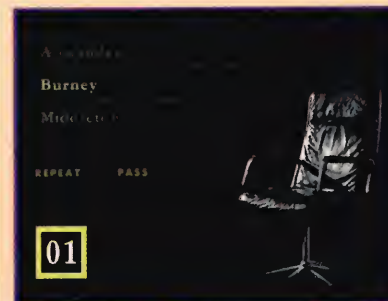
Got your pen ready? Can you get through Mensa's mental Mayan maze? Try it out.

Question time

Wondering how *Mastermind* handles the question-asking, given the fact that you can't just bark out your response at your PC as you could if you were on the actual show?



When Magnus asks the question all you can see is the first letter of the multiple choice options. As he speaks the fuller words are revealed.



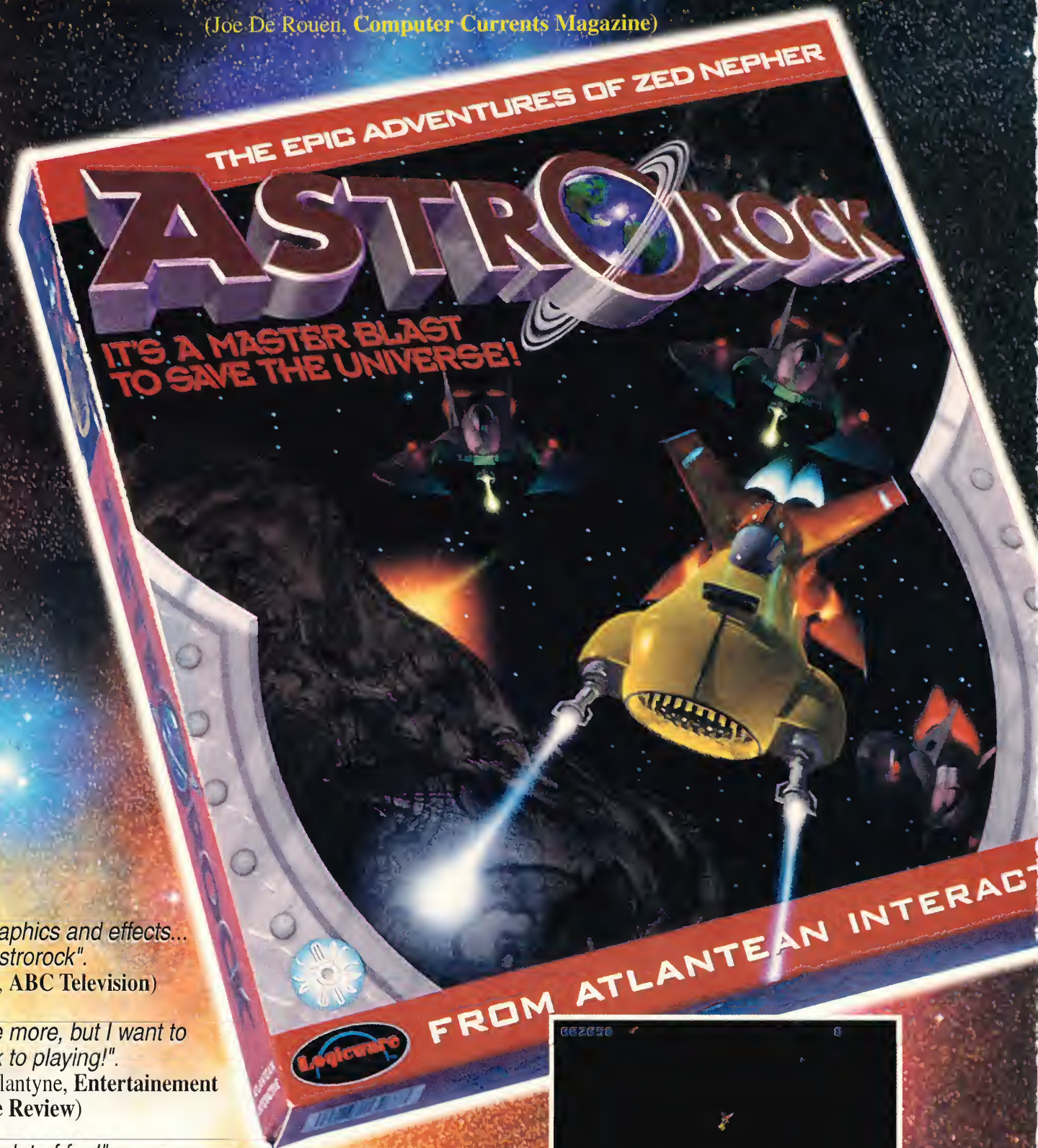
If you know the answer instantly, you can click your choice right away. If you need time to think, however, you can wait until the complete words are exposed.

WHENCE MENSA?

"Mensa was founded in England in 1946 by Roland Berrill, a barrister, and Dr Lance Ware, a scientist and lawyer. They had the idea of forming a society for bright people, the only qualification for membership of which was a high IQ. The original aims were, as they are today, to create a society that is non-political and free from all racial or religious distinctions." - *Mensa Mindbenders*

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THE ART OF COARSE FISHING

What could be more idyllic than sitting on the riverbank with your keepnet brimming with fish, your hands full of maggots and a laptop at your side?



KNOW YOUR FISH

An attractive visual index invites you to know your fish.

The mighty pinkie

Small but deadly, the pinkie has a reputation as a bit of a trouble-maker among small fish in difficult waters.

The name of this little fish is known to anglers as pinkies. They are smaller than white maggots (the name of the pinkie), being closer to a small fly. Don't think of them as a fly, however, since they are an ancient hooded in their own right.

When fresh, pinkies are virtually white but after a few days they turn a pale, rose-tinted hue which gives them their name. But don't be misled by their colour as their toughness which catches the fish.

Drilling
This tiny pinkie
is a common
size bait.



The mighty Pinkie, AKA a variation on that new-found friend of the NHS, the maggot.

Tried your hand at coarse fishing? Yes? Then you'll know that it can often be a very frustrating pastime. The wrong bait, lure, line or tackle can make the difference between a successful day's fishing and a session of sitting on the bank staring disconsolately into your tackle box. *The Art of Coarse Fishing*, a new multimedia release developed by Eagle Eye Interactive, aims to alleviate those catatonic moments by providing all standards of angler with invaluable tips and information on the technical side of their sport and biological data on different species of fish and the waters they inhabit.

Divided into five sections, Know Your Fish; Baits and Lures; Techniques and Tackle; Watercraft; and Advanced Techniques, the program covers a whole range of subjects, and most are

Know your fish - inside and out

Knowing how fish work helps you to understand their habits and makes catching them an easier task.

Fish are cleverer than we are and so supports fish against the pull of gravity much more than we would. Therefore, 'fisher' (fish) are not entirely the hapless and can be used entirely for propulsion and steering.

However, the bodies of fish are still somewhat clumsy and they are not as fast as we are. If they couldn't regulate the density of their bodies, they would be unable to use a lot of energy to keep themselves afloat. Most species of fish do this with a swim bladder containing gases, with the fish's



Know your fish inside and out. Here's one with the batter removed.

accompanied by an explanatory video clip, illustration or photograph.

Know Your Fish enables you to access useful information on all of the common species of the British Isles, including some of the more exotic, such as the Zander. Feeding habits and likely spots in which to find the fish are provided, as well as detailed pictorial and textual descriptions. Baits and Lures seems to draw you into its natural baits section where maggots, worms and other such delicacies are writhing and squirming away. Be warned, this is not for the faint-hearted or soft of stomach.

Rivers, still waters, canals and fenland drains are the focus of Watercraft, and rights of use are mentioned along with 'best spot analysis'. Techniques and Tackle, on the other hand, is a technical guide and should be the first port of call for beginners. This



Messing about on the rivers has never been so much fun.

includes advice on species hunting, legering, float fishing, using a pole and tips on the basics such as tying a knot and fishing at night. For the angler at the apogee of his sport however, Advanced Techniques offers a guide to match fishing and going for the big ones (otherwise known as specimen hunting).

There are many things to praise and little to criticise about *The Art of Coarse Fishing*. The artwork and general presentation is superb, the video smooth and textual information well organised, searchable and all-encompassing. Nice touches such as a near-perfect visual representation of a tackle box and ambient riverside sounds add to the impression that a lot of time and effort has been put into the product. Definitely recommended for both the specialist angler and the beginner. (JT)

EXPERT OPINION

We passed Coarse Fishing on to expert angler Mark Jones of Womborne, East Staffordshire, for his opinion. Here's what he said: "I went straight into the specimen hunting section, where the expert John Wilson was quite informative. He gave lots of information that's usually quite difficult to get hold of, unless you read a variety of books or magazines."

"The bait section was interesting, especially where it covered the use of seeds like hemp and barley. It gave good tips on preparation - most important if you expect a good catch."

"The one thing that did cheese me off was the sound of the reel that you hear when you roll the mouse to the bottom of the screen. It was a good idea to have reactive icons, but it one wore a bit thin after a while."

"If I were a novice fisherman, I'd want this package. It's like five books rolled into one."

Mark's biggest catch is a 32lb common carp pulled from Patshull Park Fisheries in the West Midlands.

DEVELOPER

Eagle Eye

PUBLISHER

Eagle Eye

CONTACT

01420 541880

PRICE

£29.99

MINIMUM SYSTEM

486, 8Mb RAM,

16-bit soundcard,

Windows 3.1

A slick angling

package

catering for all

levels of ability.

User friendly

and attractive.

PC REVIEW VERDICT

8



POP QUIZ


One thing you can't search on in Music Central is hair length. Can you use your own knowledge to name these three lank-haired rockers of legend?

TEAM PICKS:



Why?
Review

CELEBRITY TOURS:



Tour

QUICK O' THE DAY:

Answer

In 1971, Grand Funk Railroad became the only group besides the Beatles to accomplish what legendary ticket-selling feat?

FEATURED ARTIST:



Music Central 97 has a pro-active front-end. Each time you load it, you're greeted with a fresh selection of tours, artists and albums of the day.

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speed CD-ROM drive,
SVGA, 16-bit soundcard,
Windows 95

Strong search tools, plenty of pictures and comprehensive text make up for the rather reserved tone.

PC REVIEW VERDICT

8

Never mind the b*****s, this updated title from Microsoft is the most comprehensive guide to modern music yet.

There are, in general, two types of CD. The first, for example Dorling Kindersley's *Dinosaur Hunter* (reviewed last month), revel in animation and sound to interactively explore their subject. The second kind, typified by Microsoft's *Encarta*, are essentially souped-up encyclopedias, and at their best they've provided the most compelling titles so far.

In this sense *Music Central* is a genre clash – you load it ready to rock but find the stage bookishly quiet. With more than 100,000 entries, *Music Central* is indeed encyclopedic, and while the inevitable paucity of musical soundbytes is initially disappointing, its breathtaking sweep through modern music more than makes up for this. Every band you could mention is

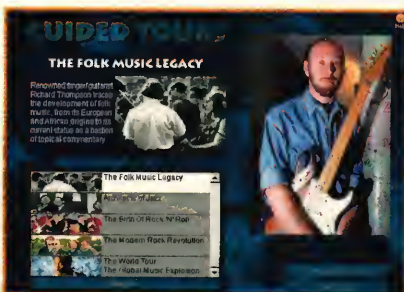
covered, from Underworld to Isaac Hayes, and most of the better albums get full reviews, courtesy of Q magazine.

The middle-aged, smug tone of the reviews can be irksome. The relative weighting of past masters to current pretenders is forgivable (The Beatles score 114 entries, Oasis receives just 4), even necessary, but for every hip point there's an inexplicable oversight. Chris Evan's recent darlings, the yank might-just-be's, Ben Folds Five, win an entry, yet there's literally just one word about drum-and-bass, the genre that has redefined the dance mainstream this year.

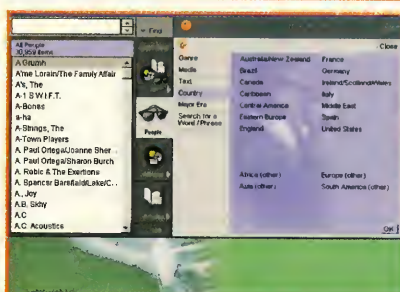
The MOJO generation rules the roost when it comes to video and soundclips, too. REM, Run DMC and U2 are joined, strangely, by Bruce Hornsby and the Range, to

represent the last 15 years of recorded output. Inevitably modern artists do better in the video clips section, most of which are culled from the BBC's *Old Grey Whistle Test*. But these snippets are necessary gimmicks, rather than part of *Music Central's* core.

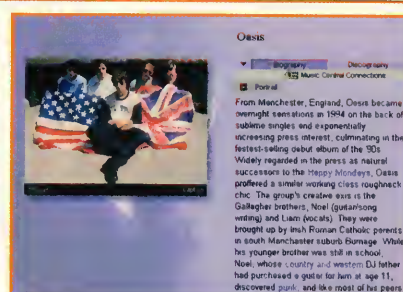
CDs might soon be replaced by on-line services, which could provide soundbytes for all the featured artists. *Music Central 97* anticipates this, with hotlinks to Music Central Online, a server dedicated to updating the CD and providing news and features. Links from the CD enable you to get updates from the Web site, download new celebrity tours and more. It's probably the most significant structural update to *Music Central 96* and may point at a future in which the two genres of CD meet. (OB)



The cheesy celebrity tours introduce you to New Age artists, jazz quartets and folkies.



You can conduct powerful searches on everything from musical genre to album date.



Old legends reap the plaudits at the expense of the young guns in Music Legends 97.

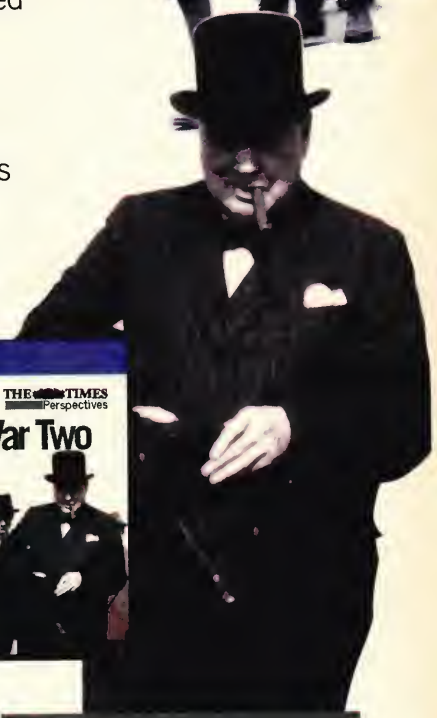
1. Trent 'Nine Inch Nails' Morrison.
2. Jimi 'Mojave' Morrison.
3. Neil 'Grizzly Old Man' Young.

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PCRI

WOMEN'S RIGHTS

THE STORY SO FAR



In 1919 Nancy Astor became the first woman in British history to take a seat in parliament.

In the 1800s, women decided that it was time they torched their crinolines. This CD tells why.



The Pankhursts are the one name that everyone's heard of in the history of womankind.

CD REVIEW

Interactive exclusive demo of both *Women's Rights* and *Planet Earth*

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Tui Interactive Media
PUBLISHER
News Multimedia
CONTACT
01525 852813
PRICE
£39.99
MINIMUM SYSTEM
486/33, 8Mb RAM,
SVGA, double speed
CD drive, Win 3.1
or Win95

An inspiring introduction to the history of womankind.

PC REVIEW VERDICT

8

"Some of the most inspired words, some of the most profound thoughts in literature fall from her lips; in real life she could hardly read, could scarcely spell, and was the property of her husband." Virginia Woolf on why women are such a minority in our literary legacy.

Virginia Woolf eloquently argued that if women seem to have achieved little, it's because the history books were written by men. *Women's Rights* from the Times Perspectives range redress the balance with a stylishly presented history of womankind from 1850 to 1995. Most importantly, no one should leave this disc feeling that the fight for equality is over.

Overview introduces you to the subject, explaining how women started out fighting for basic human rights – not merely the right to vote, but the right to own property, the right not to be beaten by their husbands, the right to have their own opinions, the right to be a doctor, lawyer or judge.

Now, in the 1990s, many women have these rights, but that doesn't mean equality exists, as these British statistics from the Overview demonstrate: less than ten per cent of MPs, less than five per cent of university professors, and less than four per cent of high court judges are women. While science is a school subject traditionally taken by more boys than girls, the latter are more likely to get the A grades... and when it comes to

finding a job, 87 per cent of part-time workers are women.

Move on to the exhaustive Timeline and meet the people who fought for women's votes and other basic rights on both sides of the Atlantic; the first woman to join the British Medical Register (Elizabeth Blackwell); the first woman MP (Nancy Astor); how women proved their ability to do men's jobs in World War Two; the advent of the Pill; right up to today. Or you can tackle the subject from the Issues section, which offers you The Workplace, Women's Lib, Motherhood, War and Peace, The Vote, Image, The Law, Power, Education and The Body. Most of

the reference material takes the form of articles from *The Times* or now-dead *Today*, but it extends beyond the shores of Britain, and is loaded with quotes and statistics.

The nineties has been a decade of female achievement: Stella Rimington, 55-year-old mother of two, is head of MI5; Alison Hargreaves was

the first woman to reach the summit of Mount Everest alone and without oxygen; the Church of England has female vicars; Shreela Flather became the first Asian woman in the House of Lords; and rape in

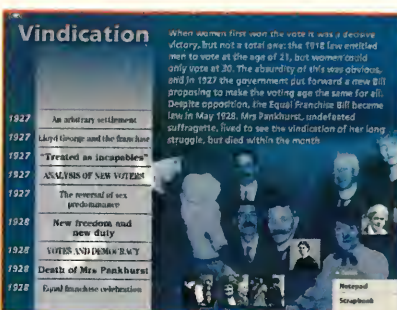
marriage is now a recognised crime. But women still carry the burden of parenthood and housework, earn less than men and seldom reach the most powerful positions.

Women's Rights blows apart the myth of women's innate physical frailty, the image of woman as gentle and passive. And while it's a great shame that most of the material supplied is newspaper articles that often refer to and quote from other writings –

rather than excerpts of the essays, Bills and books themselves – it's all highly informative stuff. (EL)



In 1993 Michael Howard and other Tory ministers said that the benefit system encourages women to have children on their own. They later retracted this statement.



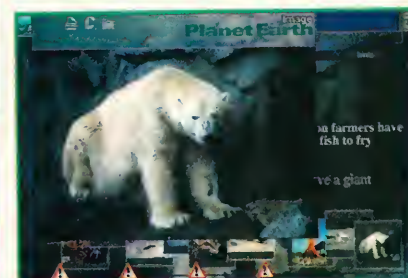
In *The Vote* you can read about all the events surrounding women finally getting the vote in 1928.



The message here is pretty clear. How long before we all have to adopt these fashions?



Articles (yellow dots) and pictures (red dots) are displayed up on a grid showing subjects along the bottom and dates on the left. Weird.



According to 1987 reports, polar bears kept cooped up in zoos can develop psychological problems. They may even become psychotic.

PLANET EARTH

If you think information is the best weapon in the war against pollution, this could be the disc for you.

Although *Planet Earth* comes from the same Times Perspectives series as *Women's Rights*, it distinctly lacks the organisation and ease of use of its sister disc. *Planet Earth* is rather hard to figure out.

Its aim is to trace the rising consciousness of what's happening to our planet, and the core of the information on the disc is from *The Times* and *Sunday Times* articles. They stretch as far back as 1831, but the bulk are concentrated between 1988 and the present. You can, for instance, read about the evil scourge of smoke over London in 1853. Equally, you can get up to date on debates surrounding the issues of the greenhouse effect, by calling up a report from the UN convention on climate change held in Berlin last March.

Anyone who is ecologically motivated will find *Planet Earth* a useful source of facts to bolster their info-arsenal. The introductory multimedia slide show dramatically demon-

strates the scale of the damage done in the past 150 years of our earth's 4.6 billion year history. Delve deeper and there follows a depressing story. In the Animals section we're told that 1.5 million dolphins die in driftnets each year, while the Air chapter reveals that 1.3 million tonnes of pollutants are released into London's air each year. Sniff. If that's not scary enough for you, consider the suggestion that water erosion combined with the melting of polar ice could result in the British Isles sinking into the sea.

But *Planet Earth* doesn't leave you completely submerged in the catastrophe. In Responses you learn all about the fight to clean things up, as well as the fight over the fight to clean things up. The activities of Greenpeace are reported, including the sinking of the Rainbow Warrior by the French secret service in 1985. The publicity following this was seen by some journalists as a catalyst for green awareness in the late 80s.

Likewise, you can learn how penalties are imposed on polluters or how the dumping of the Brent Spar was prevented.

The main problem with *Planet Earth* is that it is hard to browse. Articles are divided up in three or four ways that do not correspond to one another, and the interlinking between them is poor. It's difficult to randomly skip from fact to fact. As well as having very little sound, the graphical presentation of information isn't great.

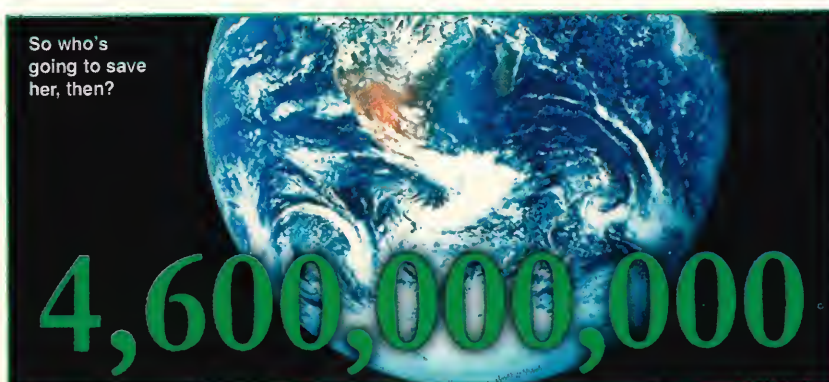
These drawbacks are counterbalanced by the huge volume of articles. There are thousands here and lots of pictures too, in addition to maps, diagrams and illustrations. If you know exactly what you want to learn about, this disc is a great reference tool. It's a bit harder to use if you're only casually interested.

(GW)

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PC REVIEW VERDICT

Fact-packed and good for reference, but not as fun to use as it could be.

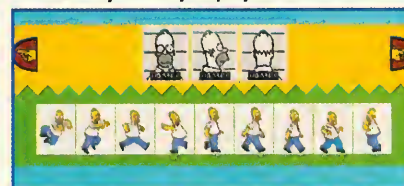


THE USUAL SUSPECTS

The Simpsons Cartoon Studio has all the major and many of the minor Simpsons characters included on its roster. Homer, Marge, Bart and Lisa all have a wide range of animations and catchphrases making, as you'd expect, the family the stars of many of your cartoons. However, more devoted Simpsons fans can choose to feature Mr Burns and Smithers, Krusty the Clown, Sideshow Bob, Blinky and a whole host of other Groening creations.



Move a flying Mr Burns across the screen and the frame counter at the bottom will count up, and he'll 'fly' when you play the animation.



Each Homer is an individual routine made up of a series of frames.

THE SIMPSONS

Cartoon Studio

"Hmmm, donuts." Homer and co in a DIY animation package.

To the unconverted, *The Simpsons* was a passing fad whose 15 minutes of T-shirt and tie-in fame elapsed a long time ago. But if you've witnessed life at Springfield on a regular basis, you know there's no TV show that's more consistently funny. Proof positive that Americans understand irony and satire, it gives animation back to the adults... which is precisely what *The Simpsons Cartoon Studio* intends to do.

Practically every Simpsons licence has been a console platformer with a sprinkling of Springfield, but this one gives you the chance to create your own Simpsons show. It's simple: a series of icons down the right-hand side of the screen offers you regular Simpsons characters, locations and props, together with sound effects, music and soundbites of speech from all the characters.

To build up your own mini episode you first choose a location - anywhere from the

Simpsons' front room or kitchen to the school, Mr Burns' power plant and even outer space. Then you decide on which character, or characters, to place in the scene. Click on Homer and you'll bring up several screens of little Homers, each of which will trigger a little animated routine of him falling over, walking, eating, yelping and so on when placed on screen.

So, to get Homer to walk across screen you select a routine of Homer strolling, place it on the main screen and then, to give the illusion of movement, drag it across screen as the routine plays. It's easy to get used to, and in no time you'll get a basic scene up and running. When you add music and sound effects to a scene it really starts to come to life; getting characters to spout their catchphrases on cue really ices the cake.

You can make a sequence of scenes across different locations lasting a couple of

minutes, but at the expense of complexity. You can only use a set number of objects and characters in a single cartoon, so Halloween specials are out of the question. And, after you've toyed with *The Simpsons Cartoon Studio* for a while, it's precisely these limitations that annoy and turn you off.

All character animation and speech comes in short bite-size bursts, fine for single gags but useless for anything else. And as there are only a limited number of sounds and animations - all well-worn Simpsons' favourites - you run out of gags fairly quickly.

This is for Simpsons' fans, and that's its undoing. *The Simpsons* is great because of great writing; the character catchphrases are part of its success, but it's for the stories that we keep watching. *The Simpsons Cartoon Studio* is an interactive collection of the icons and soundbites you'll use to brighten up your desktop. Fun but futile. (CB)

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Smoothly packaged CD that enables you to replay well-worn one-liners - but nothing more.



PC REVIEW VERDICT



Mr Burns blows up his power plant and the resulting explosion catapults a screaming Homer over Springfield, over an alien planet and back to earth. Well, we thought it was funny.



Music and sound effects are sampled from the TV show, giving it an authentic feel. The main theme is great, but the other tunes will give your 'toons an unusual feel.



One of the supplied sequences gives you an idea of what's possible.

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THE WORKS



Welcome once again to *The Works* – the section of the mag where we give you the very latest in creativity and utility software and the finest kit money can buy. This month our reviews include a roundup of 3D cards. There's been a lot of hot air about the benefits of upgrading your video card, and our buyer's guide tells it like it is. Turn to page 102 for the truth!

Also look out for our How To... section, which has gone from strength to strength and this month features a project using the brilliant new *Paint Shop Pro 4*, tips on making your PC run faster and everything you need to know about working from home. Enjoy!

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CUT YOUR OWN CD-ROMS

Now that CD writers are affordable, you need the software to help you create great CDs. Here are two top packages.

With the right software, you can greatly extend the capabilities of your CD writer. Last month we looked at five of the best writers you can buy. A few came supplied with authoring software, programs which offer little more than basic features required to perform data back-ups and write simple audio CDs. If you want to create something a bit more special, you have to buy dedicated software. We decided to look at two of the most popular programs. Contrary to our initial expectations, we soon discovered that there's a vast difference between them...

A lite version of *Easy-CD* is bundled with a couple of CD writers, and you might

expect the Pro version to represent a significant upgrade. But rather than adding extra writing modes, Adaptec has just made the program easier to use. Considering its price, the number of formats it doesn't support is surprising: CD Extra, HFS, Hybrid or Bootable CD. These are supported by *WinOnCD*, along with the more usual ones: CD-ROM, CD-DA, CD-XA and Mixed Mode. You're unlikely to need the Macintosh-based HFS or Hybrid formats, and even CD Extra is a bit on the specialised side. Bootable CD is more useful, as you can create CDs that behave like a bootable hard drive.

These omissions reveal much about the differences between the programs.

WinOnCD is a comprehensive, powerful program designed for professionals who want to master their own original CDs. It's less easy to learn, but that's only because there's more to it. *Easy-CD Pro*, on the other hand, seems very much targeted at the home user. While you can certainly use it to master original CDs, it's much better at copying existing ones. It even offers a one-button copy feature which can be used to make a duplicate of any CD. Despite Adaptec's frequent reminders about copyright infringement and piracy, it's a pirate's dream.

CDs are ideal for storing hard drive backups or infrequently-used data. They ▶

CD DATA FORMATS

Numerous data formats can be written to a CD. Here are the most common:

CD-ROM – Compact Disc Read Only Media. A basic format for storing data. Used for hard drive back-ups, etc.

CD-DA – CD Digital Audio. Music CD like the ones you buy in a record shop.

Mixed mode CD – A CD containing both data and audio tracks. Games such as *Quake* uses this format.

CD Extra – A multi-session version of mixed mode CD used to prevent audio CD players from playing data tracks and possibly damaging your hi fi speakers. The data track is invisible to an audio CD player that can only read single session tracks.

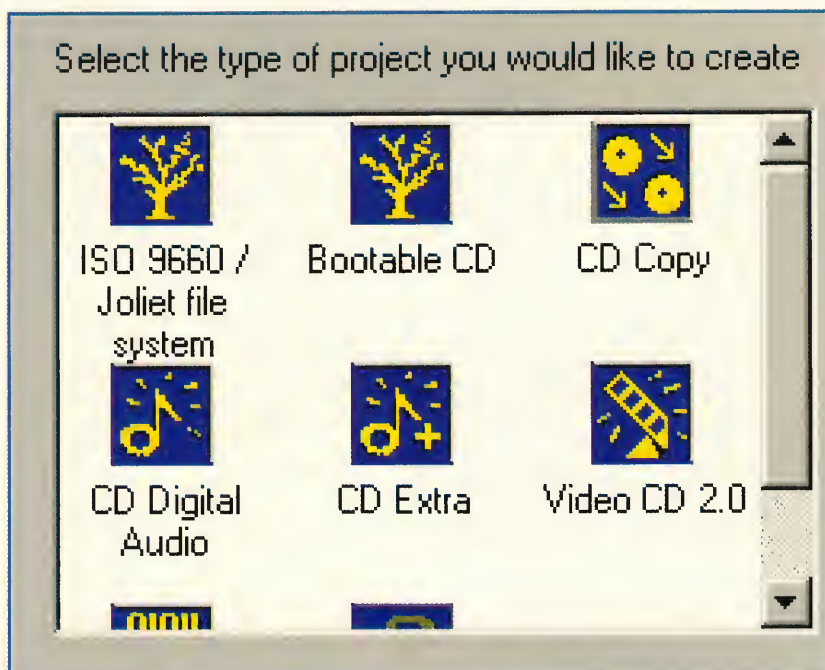
CD Plus – An earlier version of CD Extra.

HFS – Hierarchical File System. Apple Macintosh data CDs.

Hybrid CD – A CD containing both PC and Apple Mac operating systems.

Bootable CD – A data format that enables your computer to boot directly from CD without first loading an operating system such as DOS, O/S2 or Windows from your hard disk.

Video-CD – A data format that enables you to store MPEG-1 encoded films on CD.



Unlike Easy-CD, WinOnCD doesn't have Wizards. This doesn't really matter very much, though, as it's still extremely simple to create every type of CD.

COPYRIGHT ISSUES

If you're thinking of buying a CD writer to copy commercial discs or to make your own pirate compilations, forget it. For starters, it's completely illegal, and the penalty, should you get caught, can range from seizure of your computer and CD writer, right up to massive fines or even years in prison. Furthermore, increasing numbers of commercial CDs use on-disc protection – this prevents you from copying them, so even if you aren't caught, you probably won't be able to copy all the stuff you want, anyway.

MUSIC COPYRIGHT Strictly speaking, it's illegal to copy tracks from a CD to make your own music compilations. However, just like making tapes of your CDs to listen to on the move, this is an area of copyright infringement that has rarely been enforced, and is unlikely to be. If you own the original CDs, and only one copy of each music track is playing at once, you're morally in the right and no one is likely to have any legitimate complaints.

► can't be erased, and you can add data up to its maximum capacity of about 650Mb. And at only £6 to £10 for a blank CD, they're inexpensive and durable. Both *Easy-CD* and *WinOnCD* provide backup features.

Supplied with *Easy-CD* is a program called *Easy-CD Backup*, which retails for about £100. It works like normal tape backup software, offering a variety of options and enabling you to set the backup criteria. *WinOnCD* hasn't a separate program, but it enables you to set filters that specify the data to be backed-up. Neither approach is superior, but with the *WinOnCD* method you don't have to change programs.

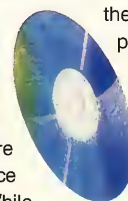
A common CD format is CD-DA, also known as CD audio. Both programs enable

you to create audio CDs, by copying tracks from an existing CD or recording your own original wave files. If you have a modern CD writer, it should be able to write CDs using the Disc-at-Once protocol, as well as the conventional Track-at-Once method. Using this newer writing technique, you have more precise control over the way tracks are laid down on a CD, and over the space in between (known as PQ-Editing). While it's simple to create audio CDs with *Easy-CD*, *WinOnCD* is the only program to provide PQ-Editing and Write-at-Once features.

Sticking with more exotic data formats and writing modes, *WinOnCD* supports bridge mode formats such as CD-i and

PhotoCD. It even incorporates a special CD-i installer that adds the appropriate operating system. One of the most exciting features is the way it handles VideoCD. Not only does it put an appropriate operating system on to the disc, enabling you to produce your own movie discs, it even converts AVI (Video for Windows) files into MPEG-1 VideoCD movies. With a cheap digitiser, you can convert your home videos into AVI files, and encode them on CD for posterity. Excellent!

When you come to specify the files that will be written to a CD, either for a back-up, or any other reason, you create a file list that details the files and directories to be written. With *Easy-CD*, this list is generated by



TOP TIP

Avoiding buffer underruns

A buffer underrun is the most serious writing error, and as soon as one occurs, the current CD is utterly ruined. They occur when the writer's on-board data buffer is emptied before more data can be loaded into it. This can occur for a number of reasons, but they're always caused by some form of interruption to the supply of data. The easiest way to avoid such an error is to increase the amount of buffer RAM, or decrease the writing speed. Each time you halve the writing speed, you double the amount of time before a buffer underrun occurs.

You also need to de-activate any software or hardware whose operation can interfere with the constant supply of data to the buffer. That means switching off any screen savers, quitting all unnecessary programs, disconnecting from a network, and even turning off auto-insert notification on all CD-ROM drives.

You can also reduce potential errors by using a dedicated A/V hard drive for mastering, or at least one that has a very fast thermal calibration routine. Using a separate dedicated SCSI interface for your writer will also decrease the chances of problems.

JARGON BOX

Buffer – A special memory area on a CD writer that's used as a safety zone to ensure the smooth, uninterrupted delivery of data to the writer. The larger the buffer, the better.

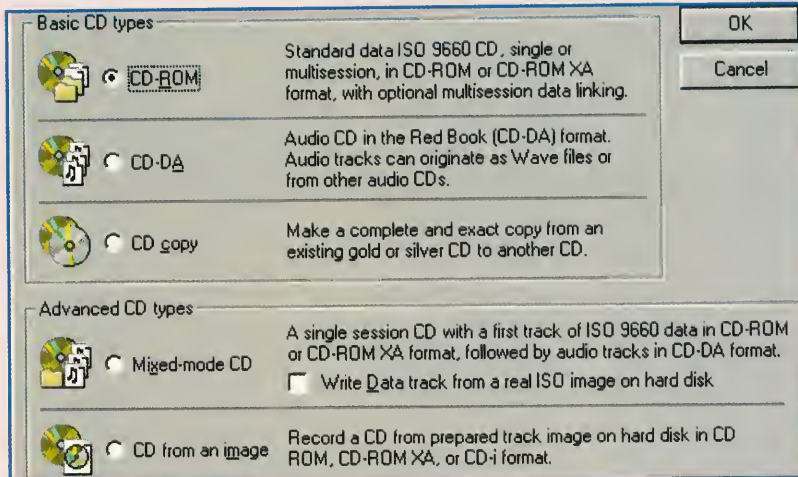
ISO 9660 – A base standard for the way data is written to a CD. Formats such as Video-CD, CD-Extra and CD-i are overlain on CD that conforms to ISO 9660. ISO 9660 compliant discs can be read on all CD-capable computer platforms.

Operating system – The basic instructions that determine the way your computer 'thinks', and which enables it to run programs. Windows 95, DOS and Windows NT are all operating systems.

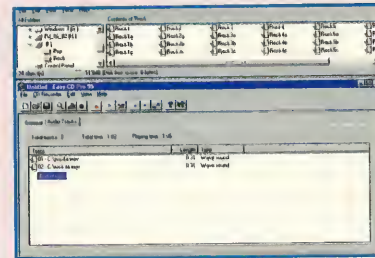
Session – When you write data to a CD, it's called a session. A session is denoted by two pieces of code on the disc called a lead in and a lead out. Although most CD writers can write numerous sessions (known as multi-session) on single CD, some older CD-ROM drives (and all audio CD players) are unable to read beyond the first session.

Thermal calibration (TCAL) – A process regularly performed by hard drives to ensure that they're still able to accurately read and write data as the mechanism expands as it warms up. Thermal calibration can interrupt the smooth flow of data to a CD writer, and is very undesirable while burning a CD.

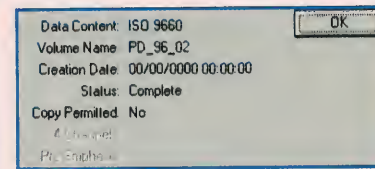
EASY-CD



Although it's a lot less powerful than WinOnCD, and lacks many of its features, it has to be said that Easy-CD is more straightforward to use.



You use Explorer to build a track list with Easy-CD. That's slower and less friendly.



Many CDs are protected from piracy with clever data recording techniques.

DEVELOPER
Incat Systems
PUBLISHER
Ingram Micro
CONTACT
01908 260422
PRICE
£233.83
MINIMUM SYSTEM
8Mb, 486, Windows 95,
700Mb hard drive,
SCSI CD writer

PC REVIEW VERDICT
Easy-CD lives up to its name, and it'll handle all the formats you're most likely to need.

6

dragging files from Explorer on to the program's list window. This is inconvenient because it means launching another application and rearranging the screen. In contrast, *WinOnCD* has its own built-in directory window that you can use while building a write list.

By specifying where each file is written on to the CD, you can optimise the read speed of a disc, useful when mastering multimedia CDs. Both programs offer file-by-file optimisation, but surprisingly, only *Easy-CD*, a less sophisticated program in

every other way, that offers a feature called Reparenting. This enables you to take files and directories on the source drive and reposition them on the CD without physically moving anything around first. It's very handy because it means that you can build a CD image within a directory on your hard drive, then transfer all of that data to the root directory of the CD when you write it.

Although the business of CD mastering is technical, the actual process of creating and writing an image is straightforward. But in order to get the best out of a package,

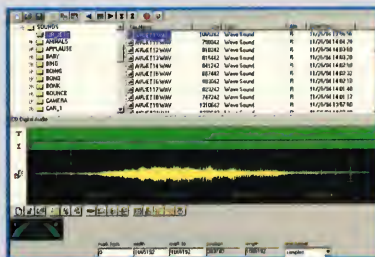
an understanding of the underlying issues is invaluable, and that's where manuals come in. *Easy-CD* describes the process of mastering CDs in its various supported formats, but the descriptions are too concise and there's almost no deeper explanation. *WinOnCD*'s manual is comprehensive and clear, but many sentences are incomplete, especially at the end of chapters.

Both packages are easy to use, but *Easy-CD* is a great package for beginners. If you're an experienced user, and need power and flexibility, *WinOnCD* is a favourite. (MB)

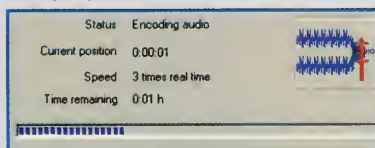
Easy-CD is a great package for beginners, but if you're an experienced user and need power and flexibility, WinOnCD is a favourite.



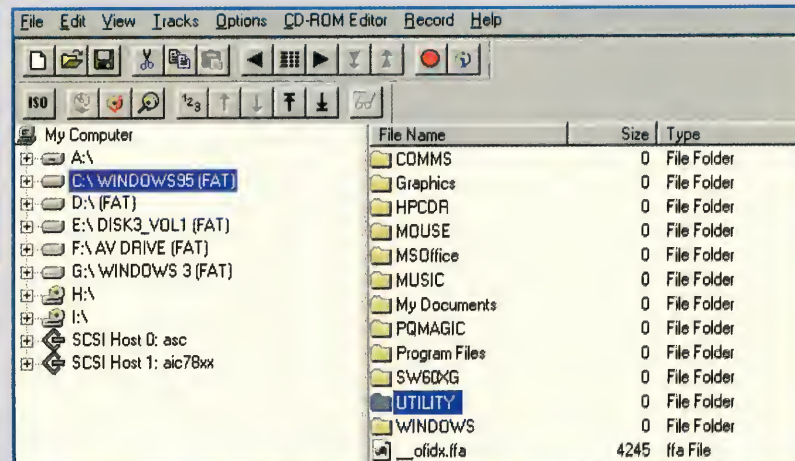
WINONCD.3.0



Making a music CD. Adjust the PQ-Edit to change spacing between tracks.



Converting a Video for Windows clip into MPEG-1 format, for storage as a VideoCD.



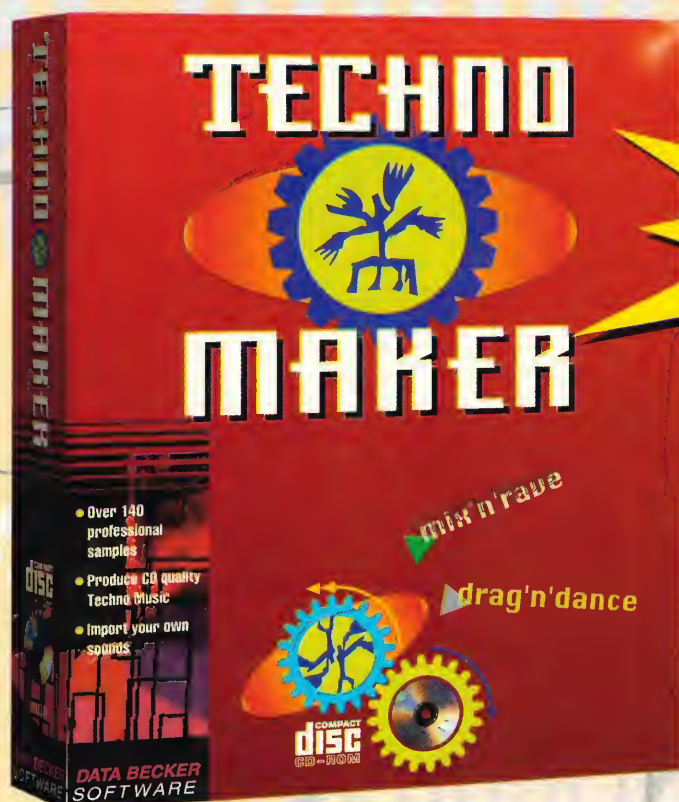
Unlike Easy-CD, WinOnCD uses its own integrated file utility when building track lists. The latter's a clear all-round winner.

DEVELOPER
CeQuadrat
PUBLISHER
CD Revolution
CONTACT
01932 562000
PRICE
£280.83
MINIMUM SYSTEM
8Mb, 486, Windows 95,
700Mb hard disk, SCSI
CD Writer, VGA

PC REVIEW VERDICT
Comprehensive and easy to use with a great manual. Handles all current data formats.

8

Techno Hits in 5 minutes



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**Produce CD quality
Techno music
(16 bit 44.1 kHz)**

Techno is cult. The DJ is the cult figure of a new generation. Now you can become the Techno DJ. The Techno Maker now makes it possible for you to create Techno music on your PC, quick easy and cool.

Home made - 170 beats to a Techno hit

Get into the charts with your own creations. Techno Maker provides you with over 140 high quality sound samples which you drag into your 8 track arrangement editor and instantly create your own style of Techno music. These samples are of 16 bit 44.1 kHz CD quality and include the following sound libraries: Effects (22), Percussion (18), Drums (44), Chorus (18), Bridge (13) and Verse (19). These libraries contain samples from vocals, drums, bells, lasers, crashes, strings, flutes, organs and many more. Start mixing now, creating your own hit with up to 170 beats per minute.

Import your own sounds

Although Techno Maker is supplied with 140 samples, you can also add your own sounds, such as your own vocals. Techno Maker will accept 16 bit 44.1 kHz WAV files which can be added to your sound libraries.

Techno Maker - It's what your sound card was made for

Fade in and out any of the 8 tracks with chorus, drum beats, mix and re-mix, until you get exactly what you want. Then produce absolute Hi-fi Stereo quality. The only problem with Techno Maker is that no one will believe you've made it yourself.

System Requirements:

- IBM PC 486 DX60 or higher
- 8Mbyte RAM
- Windows 95 or Windows 3.11
- Soundblaster compatible sound card
- Double speed CD-ROM (or faster)

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BORDERING ON GENIUS

Zap some life into those tired old pages with a stylish border. Here are two programs that'll help you hit the mark.

Decorative borders add a splash of colour that transforms any document from mere text into an eye-catching statement. By adding balloons and streamers to an invitation, the message is clear before the recipient reads the text. By the same token, a more serious border added to a certificate or contract can lend it the note of authority it needs.

Until now, if you wanted to add a border there were plenty of clip art images you could use, but this was a lengthy process that involved stretching them to fit or performing complex operations in your word processor or DTP program. No longer. Here are two easy-to-use pieces of software that enable you to create perfectly sized borders for any page and any occasion.

The cheaper of the two is *Border Creator* from GSP. It's very straightforward, but this simplicity comes at the expense of features. *Ornamatica*, on the other hand, costs more

than twice as much but gives you nearly every option you might require.

Both work by providing a selection of images which you can use to create a pattern around the edge of the page. You adjust the number and scale of the images for simple tiled effects or more complex pictorial frames. Patterns can be repeated in any or all zones in both programs, although with *Ornamatica* you can define a border on a tile-by-tile basis, so the resulting image can be much more complex.

Both packages come with a selection of images to use in the borders – *Border Creator* with only 100 – all fairly simple. *Ornamatica* comes with more than 5,000 images and they're professionally designed to cater for almost any occasion. And in both packages you can import your own clip art images to use as tiles.

The main difference between these programs is their precision and editability.

Border Creator is instantly accessible and it's very easy to change the size of the borders and the patterns printed on them, but ultimately the choice of patterns, and the way you can use them, is limited.

Ornamatica, however, forces you to size tiles using precise dimension gadgets which lack the immediacy and friendliness of its rival. But you can rotate a pattern through any number of degrees, and with thousands of designs to choose from, producing original creations at any size is an easy task.

Once you've created a design in *Ornamatica* it can be printed from within the program or exported as a WMF or BMP file. *Border Creator* also offers a WMF export option, but doesn't provide a printing option, a pain if you want to preview your design.

Border Creator is great if your requirements aren't too demanding. But if you need flexibility, *Ornamatica* is the better choice, and it's still very reasonably priced. (MB)

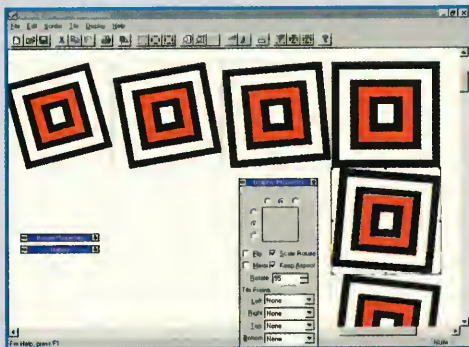
USE YOUR OWN PICTURES

Both programs enable you to use your own pictures as frames instead of the ones supplied. You can design graphics to be used as repeating tiles, or single-hit images. To make the pictures, you'll need a vector drawing program that can export images as Windows MetaFiles. The most popular programs are Corel Draw, Draw Plus, Xara Studio and Smart Sketch.

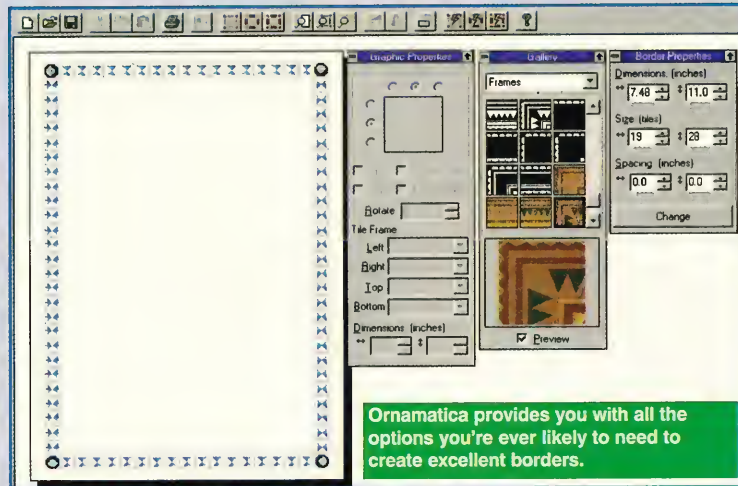
CD REVIEW

Check out the working demo of *Ornamatica*.

ORNAMATICA



This sort of border is only possible thanks to Ornamatica's rotate option.



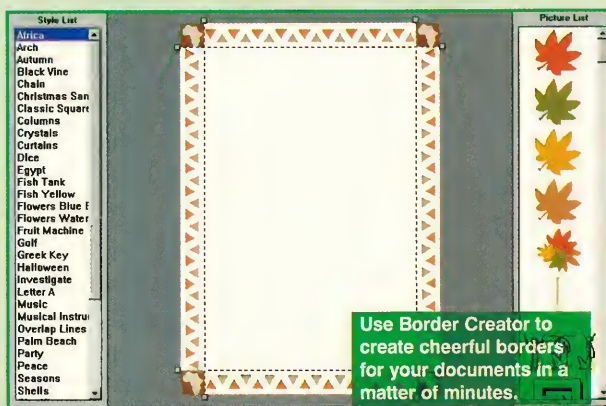
Ornamatica provides you with all the options you're ever likely to need to create excellent borders.

DEVELOPER
Digital Workshop
PUBLISHER
Digital Workshop
CONTACT
01295 258335
PRICE
£35.19
MINIMUM SYSTEM
386, 8Mb, Windows 3.1, 15Mb hard disk

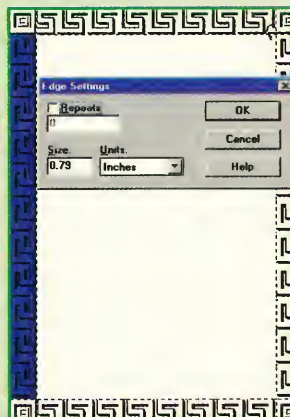
PC REVIEW VERDICT
Ornamatica is powerful and professional, but its user-interface could be more streamlined.

8

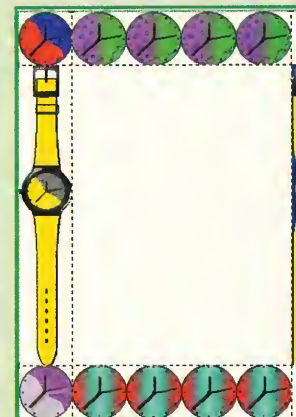
BORDER CREATOR



Use Border Creator to create cheerful borders for your documents in a matter of minutes.



You can adjust the size and number of the tiles you use in Border Creator.



You can import your own pictures into Border Creator to produce originals like this.

DEVELOPER
GSP
PUBLISHER
GSP
CONTACT
01480 496789
PRICE
£14.99
MINIMUM SYSTEM
386, 4Mb, 3Mb hard disk, Windows 3.1

PC REVIEW VERDICT
For quick and easy borders, Border Creator is the best, but it can't do as much as Ornamatica.

7



PRINTER

With a bit of imagination, you can create your own fantastic

CANON FABRIC (FS-101)

DEVELOPER

Canon

SUPPLIER

Canon

CONTACT

0121 680 8062

PRICE

£31.73 for 10 sheets

MINIMUM SYSTEM

colour printer

These sheets make it easy to produce a professional job, but they're not suited to t-shirt printing.

PC REVIEW VERDICT

8

Printers have been around for so long now that most people just see them as part of the furniture, along with a mouse or keyboard. They sit there in the corner doing the mundane job churning out letters, faxes and hard copies of whatever it is you wish to print. A printer's life is a dull one. Even if your printer's one of those flashy new colour bubblejet models chances are it's not doing much more than printing schoolwork or office reports.

If you feel the inclination, however, you can easily make your printer the centre of a new creative activity in the home: T-shirt making. With the right materials to print on, you can print graphics either straight to fabric or onto iron-on-able sheets. Using these, your PC-created pictures can be transferred onto a T-shirt, fabric bag or any other form of apparel.

Canon, for instance, has just started producing printable cotton sheets which can be used to make patches, cross-stitch and tapestry patterns and more. Another firm, Fargo, makes a special paper for thermal wax printers which is used to produce T-shirt

transfers. And finally, Quill Marketing does T-shirt transfer paper which can be used with ink-jet and dot matrix printers, and even felt-tip pens.

Canon claims its cotton is designed only for use with Canon printers, but in our tests, it worked just as well with other inkjets too. The cotton comes in the form of a large sheet firmly fixed to an acetate backing material. It's the acetate that stops the cotton wrinkling in your printer so you can produce crisp prints. The sheet's considerably larger than normal A4 and the fabric and backing material is obviously quite thick, so you need to move the print-head and roller positions to envelope thickness.

Apart from that there are no other considerations and you can print on the cotton exactly as you would a normal sheet of paper using standard printer ink. Some of the newer Canon printers specifically support cotton media, but for those that don't, you merely need to specify plain paper as the printing medium.

Once the cotton is printed, you peel it from the acetate support and it's ready to

use. To remove excess ink, Canon recommends you rinse the cotton, then leave it to dry before using it. Depending on the ink formulation, you may also need to use a fixative powder, which is included with the sheets. This stops the ink from fading too quickly. It won't hurt if you use the fixative when it's not needed, so you should probably fix the ink if you decide to print using non-Canon printers.

So, now you have a printed piece of cotton, what can you do with it? Well, just about anything you like. You could make cloth patches or badges, or with a bit of care you can produce templates for the various needlework crafts. At last, you're not bound by the patterns available in your local store – you can make your own using scanned photos or images from your imagination.

The sheets from Quill and Fargo are different. Instead of printing to the finished media you print on a special paper which is transferred to material by ironing. This has both advantages and disadvantages. The benefit is that you can transfer your designs to a wider range of garments and materials,

THERMAL WAX T-SHIRT PAPER

DEVELOPER

Fargo

SUPPLIER

Bannerbridge

CONTACT

01268 419101

PRICE

£23.49 for 10 sheets

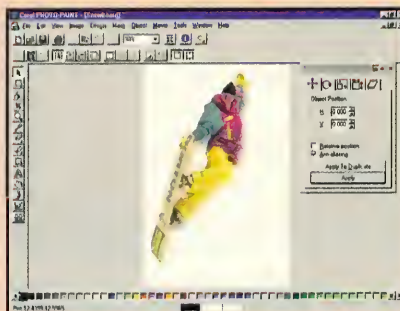
MINIMUM SYSTEM

Thermal wax printer such as a Primera

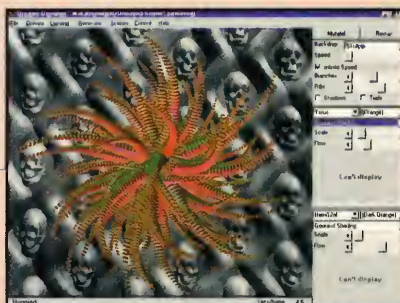
Can produce the best-quality T-shirt prints, but it's hard to judge the colour brightness when printing.

PC REVIEW VERDICT

7



You can print from any graphics package. Here we're using Corel Photo Paint.



We grabbed this image from William Latham's superb Organic Art program. It has just the right heavy metal horror tone for our record bag. All those skulls, eh.





MAGIC

designer clothes. Hook up your printer and read on.

however, the transfer process is not as straightforward, and it's easy to make mistakes that will cost you an expensive transfer and a shirt. The easiest mistake to make is forgetting that everything on the printed document comes out back-to-front on the finished garment. It's an oversight we made on an embarrassing number of occasions... It's not so bad if you're only printing pictures, but when you incorporate text you have to get it right.

When printing on these transfer papers, you treat them almost exactly like normal paper. The Quill paper tends to over-emphasise the image's brightness, leading to heavily saturated colours and gaudy images. Ironically, the Fargo paper does exactly the opposite, producing images a bit on the dark side. Not to worry though, you can compensate for either paper using your graphics package or printer driver.

Having printed the required design on to the transfer paper (the right way around), you need to iron it on to a T-shirt or some other garment. For that, all you'll need is a flat hard surface and a very hot iron. This

process literally melts a copy of the image into your clothing, but unless you apply a high and even heat, it's very easy to leave bits on the transfer on the paper. Patience is the key. These thermal transfers do require extra care when washing, and the inkjet and dot matrix ones don't last as long as commercial transfers. Still, they're an exciting way of expressing yourself and making unique clothes, perfect for personalising team or club clothes for special events, and they're a lot of fun to use too.

How we made the jacket and bag

These were both printed using the Canon fabric. The bag was printed on a Canon BJC 610 which directly supports the material. The image was generated in a program called *Organic Art*, then captured using *Corel Capture*. It was processed in *Photo Paint* using a circle mask tool with feathering turned on to give that faded look around the edges. The finished patch was sewn on to the bag by a friend – thanks Anne!

The jacket image is taken directly from *Fractal Design Painter's* gallery, and trimmed

to remove the background. The text was added in *Photo Paint*, and the print was generated on an Epson Stylus Colour printer using the plain paper setting at 360dpi. We glued the patch on to the jacket using clear UHU glue.

How we made the T-shirts

The snowboarder was taken from a Photo CD image in the *Corel Stock Library 3* collection. It was cropped from its original picture, then diagonal motion blur was added to create the sense of movement. We originally added text to the image, but stupidly forgot to mirror it, so we had to chop that out of the printout! The snowboarder was printed on the Quill paper.

The weird image was generated in *Organic Art* and cut out before being given the feathered edge courtesy of *Photo Paint*. It was printed using the Fargo Kit, which accounts for its darkness. We need more practice to get the right settings, but we ran out of T-shirts! (MB)

COLOUR 'N' WEAR INK JET AND DOT MATRIX T- SHIRT PAPER

DEVELOPER

Foto-Wear

SUPPLIER

Quill Marketing

CONTACT

01603 748002

PRICE

4 sheets £6.95,

30 sheets £35.19,

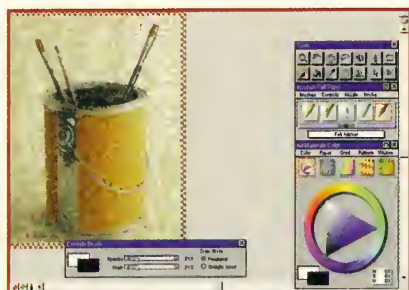
100 sheets £101.05

MINIMUM SYSTEM

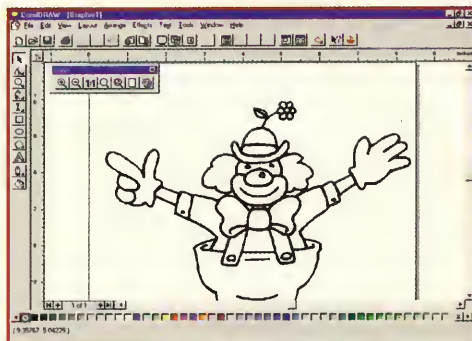
Dot matrix or ink jet printer, can also use felt tip pens.

PC REVIEW VERDICT

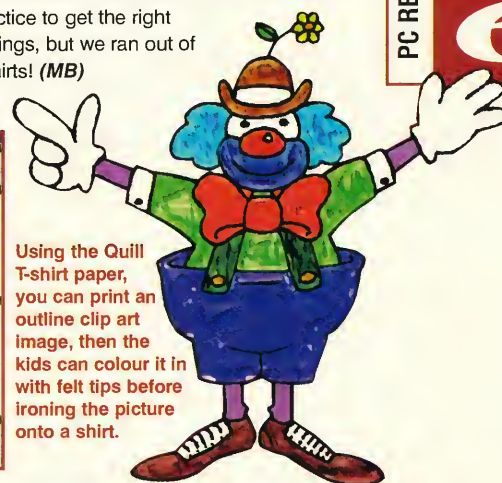
Versatile and affordable, but the image quality is not so great and they fade quickly.



Just about any image can be used. Choosing an effective one is half the skill!



Using the Quill T-shirt paper, you can print an outline clip art image, then the kids can colour it in with felt tips before ironing the picture onto a shirt.



TOP TIPS FOR T-SHIRT PRINTING

- 1 When deciding on an image to print, remember that brighter, primary type colours work the best.
- 2 You must horizontally reverse the on-screen image when using the T-shirt transfer papers, otherwise any text will come out back to front.
- 3 Consider the background colour of your transfer. It's often best to choose a shade that will blend into the garment it'll be printed on. White T-shirts are easy with iron ons; coloured ones much harder.
- 4 When using the Fargo paper, make the original image at least twice as light as you need the finished print. Increase the colour saturation, too.
- 5 When using the Quill ink-jet paper, increase the image brightness so the iron-on isn't too dark. Leave the colour saturation at its default level.
- 6 Before ironing your transfers on, roughly trim the paper around the image so that you're not bonding large blank areas on to the shirt. These can ruin an iron if you accidentally go over them at a later time.
- 7 When ironing your transfers on, set the iron to its hottest setting, then keep it moving over the transfer constantly. Test a small corner of the transfer first to ensure it peels away smoothly.
- 8 Don't try to iron your designs on to stretchy materials that include a lot of polyester or lycra. The design stretches and looks horrible when you're wearing the garment.

WILDCAT!5

If you're thinking of starting your own on-line business, you'll need a competent BBS package. Could Wildcat!5 fit the bill?

BBS systems have been around almost as long as modems have existed, and consist basically of computers which account holders can dial up directly through their modems. The largest BBSs are commercial on-line services, like CompuServe and America On-line. However, local BBSs run by small groups of people are common, and are quite easy to set up with the right software.

Wildcat!5 is a client/server BBS program for Windows 95 that enables you to create your own BBS. A typical setup for the system might consist of running a server application

and a few client programs, up to a huge PC network with multiple applications on each PC communicating with the server.

The program includes utilities which give users access to e-mail, messages, files and teleconferences. The feature that makes this system unusual is that as well as offering a text-based interface, it uses Hyper Text Markup Language (HTML) – the language used for pages on the World Wide Web. This has the advantage of enabling the designer to use multimedia tools for designing the interface, and is a total departure from traditional BBSs. To view the pages, a

browser called *Wildcat Navigator* is included. Looking a bit like *Netscape Navigator*, *Wildcat Navigator* can 'surf' *Wildcat* BBS pages in graphical format using hypertext links. An add-on to the system is the *Internet Connectivity* package. When combined with an Internet connection, it enables *Wildcat!5* users access to the Internet through the system.

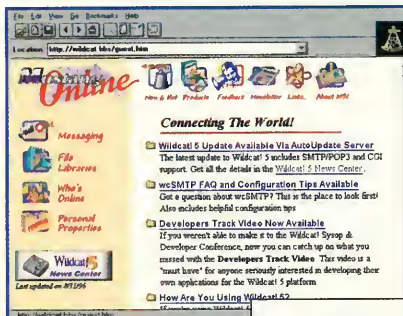
The program is really aimed at system managers and people with a particular business application for their BBS. With this in mind, it offers an impressive range of utilities for users. (DS)

DEVELOPER
Mustang Software
SUPPLIER
Guildsoft
CONTACT
01752 895100
PRICE
£139.82
MINIMUM SYSTEM
486, 8Mb RAM,
Windows 95 or NT

Great if you want to set up your own BBS. But take a look at the ever-growing WWW first.

PC REVIEW VERDICT

8



The traditionally text-based look of BBSs takes on the style of the World Wide Web.

Name	Title	From	Activity	Speed	Time
HENNIE OBRIEN		Deerfield beach, fl	Scan messages	21600	17 mins
BUTCH WALKER		Rocky River, OH	Downloading a file	19200	10 mins
SGT			Wildcat Navigator	19200	9 mins
ANONYMOUS FTP		(whoever@microsoft.com)	FTP Server	FTP	153 mins
LARRY LAVERY		ARLINGTON HEIGHTS	Wildcat Navigator	HTTP	42 mins
PAUL VAN DYKE		Singapore	Wildcat Navigator	HTTP	1 mins
ANONYMOUS FTP		(guest@unknown)	FTP Server	FTP	5 mins
ANONYMOUS FTP		(nvgas@infopro.spb.su)	FTP Server	FTP	39 mins
ANONYMOUS FTP		(computers@compport.com)	FTP Server	FTP	12 mins
ART RICHARDSON		Ozark Al	Downloading a file	Telnet	22 mins
ANONYMOUS FTP		(web-proxy@aaz.net)	FTP Server	FTP	5 mins
ROSS SCHMIDT		Minneapolis, MN	Wildcat Navigator	Telnet	17 mins
EDWARD TUNE		Toucan's Nest (Pan City,	Wildcat Navigator	HTTP	11 mins
SIKK			Wildcat Navigator	Telnet	11 mins
JASON M SMITH		Guernsey C. Isles	Wildcat Navigator	HTTP	62 mins
TIM MCEVEY		The Asylum BBS	Wildcat Navigator	Telnet	47 mins
ANONYMOUS FTP		(wwwuser@unknown)	FTP Server	FTP	8 mins
DAN DUFFY		Cincinnati Ohio	List files	Telnet	3 mins
STEVE TRIMM			Web browser	HTTP	1 mins

Using Wildcat!5, you can join in on an interesting public chat or log on to a private channel – but you can only do the latter if you're expressly invited.

QMODEM PRO

Even if you own the fastest modem on the market, you can still enhance its performance. Here's how.

Another Windows 95 package designed for use with BBS systems. Basically, *Qmodem Pro* is a glorified modem utility designed for fast and efficient downloads from BBSs.

It includes a telnet client and a phonebook which enables you to set a separate icon for each entry. The BBS can then be dialled straight from the icon, which you can drag to the desktop. A unique user ID and

password can be set for each entry and data, telnet and voice numbers stored as in the same phonebook.

The program has TAPI (Telephony Application Programming Interface) support, which means that it can be shared with *Microsoft Exchange* Fax system, Dial-up networking, Microsoft Network or any other TAPI application without having to worry about port conflicts. It also has a

GIF/BMP/JPEG Picture File Viewer (PFV), which enables you to zoom on any graphic file up to 1,600 per cent while being downloaded. It can then be cut and pasted from the window to other applications.

If you're heavily into downloading and moving files around BBS systems, *Qmodem Pro* is a neat package. Otherwise, the programs included with Windows 95 should be good enough. (DS)

DEVELOPER
Mustang Software
SUPPLIER
Guildsoft
CONTACT
01752 895100
PRICE
£93.94
MINIMUM SYSTEM
486, 8Mb RAM,
Windows 95

A neat tool if you're into surfing BBS pages. If not, stick to shareware or Win95 programs.

PC REVIEW VERDICT

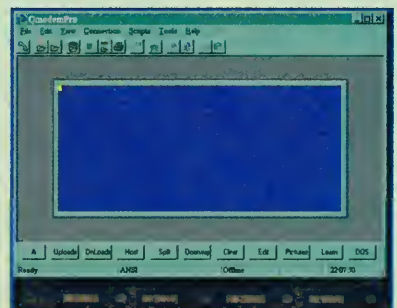
6



The Qmodem phonebook shows regularly dialled numbers as icons.



You can view multiple GIF, BMP or JPG pictures consecutively during downloads.



The command line interface. This is where you'll see all data sent to you.

PC ANSWERS

FOR PEOPLE WHO ARE SERIOUS ABOUT WIN95

101 RED HOT tips for Win95



December 1996
Issue 34

Do everything
from changing
your wallpaper
to editing your
Registry!



On sale now

<http://www.futurenet.co.uk/computing/pcanswers.html>

The final countdown?

Will the New Millennium
cause chaos? How the year
2000 will affect your PC



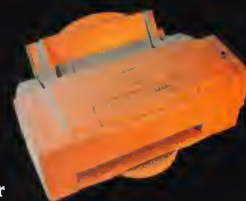
Next generation of PC chips

The large chip companies
are preparing for more
major launches next year.
Find out why



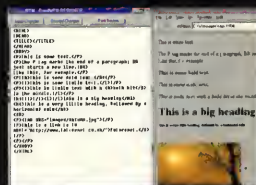
Colour on the cheap

Colour inkjets at bargain
prices. Quality colour
printing for the home user



Untangle the Web

Create your own Web site
with our new three-part
tutorial. We also have a
trial version of Corel
Web Designer on the CD



HAPPY

PAINT SHOP PRO 4

You don't need to be rich to use a powerful art program – the latest version of Paint Shop Pro is actually affordable.

CD REVIEW

You'll find the fully working version on CD Review, and a project on page 104

DEVELOPER

JASC

SUPPLIER

Digital Workshop

CONTACT

01295 258335

PRICE

£58.69

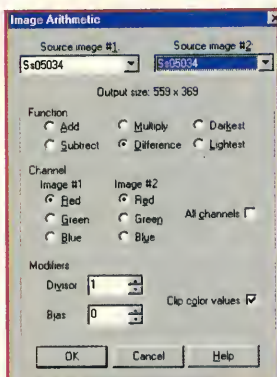
MINIMUM SYSTEM

486, 8Mb RAM,
5Mb hard disk,
Windows 95, SVGA

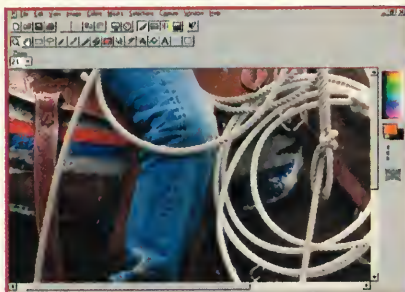
Paint Shop Pro 4 strikes a near perfect balance between complexity and usability.

PC REVIEW VERDICT

9



This Paintshop tool enables you to use one image as an operator on another. Serious stuff!



With its clean, easy-to-navigate interface, Paint Shop Pro 4 is perfect for beginners. In fact, the entire program is simple to use.

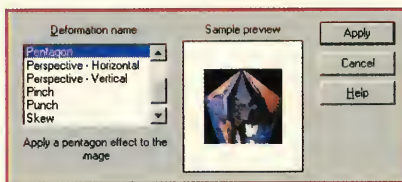
You can't have failed to notice that decent creative software is expensive, and it's not uncommon to see graphics packages costing many hundreds of pounds. Fortunately, one company seems determined to stand against the conventions, which means that you can still afford to use powerful painting tools. JASC faces something of a dilemma, because on one hand, it wants *Paint Shop* to provide as many professional features as possible, but on the other hand, it seems determined to keep the program as uncomplicated and user-friendly as possible. And it's largely succeeded, for the interface is completely intuitive and a joy to use. Fortunately for us, JASC has managed to walk the fine line between failing to provide

enough tools to do the job, and overwhelming you with too many.

There are a number of interesting new features, the most impressive of which is the program's ability to handle multiple selections simultaneously. You can also choose to feather the edges of a selection, a feature perfect for gradually blending one image into another.

Speaking of special effects, the program offers even more than ever, and these are strewn higgledy-piggledy throughout the Image menu. Their implementation is, however, rather strange. In some cases, there are loads of editable parameters and a lovely full-screen preview mode, while other effects are not at all editable, and you don't even get to view a thumbnail preview, let alone a full-screen one. There doesn't seem to be any logic about the ones that can't be edited, and it feels like a rush job.

Fortunately, that's the only part of the program that feels wrong, and the remainder is a delight to use. The new paper textures are implemented especially well, and there's an impressive seamless tile tool that will instantly create repeating patterns for you to use as fills. Great stuff. (MB)



This deformation browser is handy, but it would be better if you had more control over the way the effects are performed.

XRES 2.0

CD REVIEW

Working demo project in CD Review pages.

DEVELOPER

Macromedia

SUPPLIER

Macromedia

CONTACT

01344 458600

PRICE

£586.33

MINIMUM SYSTEM

486DX 50, 8Mb RAM,
500Mb hard disk
CD drive

XRes is fast and provides many great features that earn it a place alongside programs like PhotoShop.

PC REVIEW VERDICT

8

Ordinary graphics programs are all very well, but for high resolution image editing, there's only one choice...

Packages like *PhotoShop* and *Painter* are superb in their own specialised niches, but they're both very resource-hungry and, even on a powerful computer, extremely slow. If you're doing the kind of work that justifies one of those £500 programs, chances are, you sometimes work with high res pictures. You'll notice almost immediately that these packages can come to a near standstill,

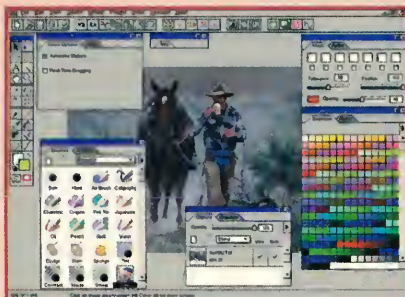
especially once you start using filters and effects. *XRes* has been created specifically with high res users in mind, and it's been optimised for fast performance and low memory usage.

XRes is targeted at people who work with images between 20Mb and 80Mb in size. When you load an image, you can load it directly into memory if it's a small picture, or in *xRes* mode if it's a large one.

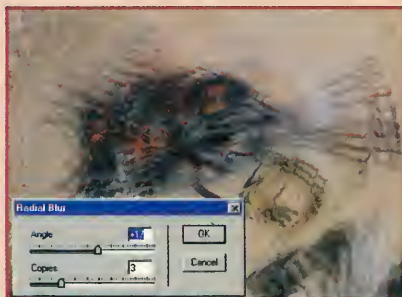
In *xRes* mode, the program spools the image back and forth to disk, so you don't need tons of memory. Moreover, rather than trying to process the entire image constantly, the program provides a fast response mode that enables the PC to perform complex operations in a tiny fraction of the time they would normally take.

The program has a hybrid selection of tools that gives it a unique place in the market. It has more natural media tools than *PhotoShop*, and more image editing and retouching tools than *Painter*. The user interface is similar to *PhotoShop*'s, with the same shortcut keys. Initially, the display is very cluttered thanks to floating palettes, but once you dock these out of the way, the interface is far more manageable.

For precise control, there's a number of retouching brushes you can use to apply filter effects such as tint, saturation and so on. You can also specify in great detail the way that every brush works, so that it acts exactly how you want it to. (MB)



There's a daunting number of floating palettes on-screen when you first load *XRes*.



Effects such as this radial blur are incredibly faster than rival programs.

PC CD-ROM

soul hunt



LET THE FESTIVAL
BEGIN...

RE-BIRTHDAY

GAMETEK



GO TO GAME HEAVEN

<http://www.e-on.com>

Entertainment OnLine



The game site to die for

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<http://www.e-on.com>

BODYCOUNT

In 1979 a crack commando squad was sent to prison for
a crime they didn't commit. **HA SUCKERS !!**

Chuck Fury

ANCO

INFO: 01322 291103

ETA:15-11-96

DETECTABLE DRIVES

Can an expensive AV drive really make a difference to your system? Stay tuned to find out how.

The AV of 'AV drive' stands for audio-visual or audio/video, depending on who you listen to. Either way, it's a special prefix that means a hard drive is particularly suited to that kind of work. It also means you'll pay significantly more for it. Some manufacturers slap an AV tag on any fast hard drive, but in actual fact, there's a lot more to it than a bigger badge.

Do not interrupt!

When you're recording audio or video data directly to your hard drive, two things are crucial: a decent sustained transfer rate, and a total lack of interruptions. The precise transfer rate depends upon the audio or video quality you require and the hardware used to compress the data. Nevertheless, most modern EIDE and SCSI drives are fast enough for most home and semi-pro requirements. Maintaining an uninterrupted flow of data is a bit more tricky, and that's where true AV drives earn their spurs.

The problem is due to a hard drive feature known as thermal calibration, or TCAL for short. When you first switch a drive on, the tiny magnetic platters are at room temperature. Fine – but then they quickly start to warm up and get hotter until they reach a maximum level after a period of minutes to hours, depending upon the ventilation in your computer's case. As the

drive gets hotter, the position of the data on it moves microscopically. To compensate for this, the drive regularly recalibrates itself to maintain accurate data transfer.

Unfortunately, this process interrupts the normal flow of data and can ruin a recording. An AV drive is special because it includes dedicated electronics that perform what's known as 'interruptible calibration'. That means the calibration cycle only commences if the drive is idle; and conversely, it instantly stops calibrating when you start using it.

At the time of writing, this interruptible calibration feature adds hundreds of pounds to the price of a drive, so we thought we ought to check out a couple. We chose the new Micropolis AV Gold series, and the Seagate Barracuda AV. Micropolis has a sterling reputation in this field, and for a long time it was the only company that produced true AV drives. This latest drive represents a new cheaper range, aimed at the lower-end, non-professional user.

Enhanced performance

The non-AV Barracudas utilise interruptible calibration already, but when you order an AV version of the drive, Compass perform a series of optimisation routines which further enhance its performance, altering the type of error correction and so forth. Both drives use Fast SCSI 2 interfaces, and are

theoretically capable of delivering burst transfer rates up to 10Mb per second.

Transferring now

More meaningful is the average transfer rate. We performed a transfer rate test with half a dozen benchmarking programs and received a different answer with every one, so we decided to stick with Norton Sysinfo. You'd expect a slight variation, even with repeated uses of the same program, but none of our tests delivered the throughput claimed by the manufacturers, despite the fact that we were running the drives on a fast Adaptec 2940 PCI SCSI host card on a P166 system. The Seagate performed the best, with an average throughput of about 3.6Mb per second, compared to manufacturer's claims of 5.93 to 9Mb per second. The Micropolis drive was quite a bit slower at only 2.8Mb per second, compared to their claims of 4 to 10Mb per second. This came as something of a surprise, especially when you consider the fact that the Seagate drive is a touch cheaper per Mb. It also delivers an average seek time of 7.59ms, which is exactly 0.25ms faster than the Micropolis.

Frankly, the Seagate drive wins in every area. But it's a chunky full height drive, that generates tons of heat. The Micropolis is much more compact, and runs at a lower temperature. (MB)

ABOUT BENCHMARKING

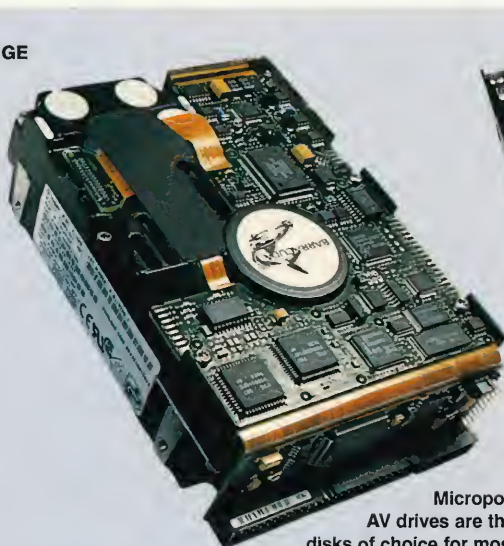
Testing SCSI hard drives is not an exact science. The speed of the computer and the speed of the SCSI interface will both impose a performance penalty. The important thing is to test all units under the same conditions so that a fair comparison can be made. The transfer rate of a drive is also affected by the amount of data being rated, and the amount of seeking that the heads need to do to find it. Using their internal cache, and only reading small amounts of data, hard drives can achieve their optimum performance, and it's these figures that manufacturers quote. However, in the real world, you'll never use a hard drive like that, so a good rule of thumb is to remember 'Don't believe the hype!'.

SEAGATE BARRACUDA RANGE

DEVELOPER
Seagate
SUPPLIER
Compass Computer Group
CONTACT
01635 567333
PRICE
2.147Gb_765=34.8p per Mb
4.3Gb_1075=24.4p per Mb
9.1Gb(5.25")_2040=21.9p per Mb
MINIMUM SYSTEM
SCSI Interface

PC REVIEW VERDICT
They're among the fastest drives in the World, AV or otherwise. But they're still far from cheap!

7



Micropolis AV drives are the disks of choice for most professional users.



The Seagate's high speed is matched only by its operating temperature. Careful it doesn't cause heat problems.

MICROPOLIS AV GOLD RANGE

DEVELOPER
Micropolis
PUBLISHER
Micropolis
CONTACT
01734 751315
PRICE
2Gb_555.38=27.1p per Mb
4.3Gb_1131.13=25.7p per Mb
9Gb_2118.13=23p per Mb
MINIMUM SYSTEM
SCSI Interface

PC REVIEW VERDICT
They're not cheap and run much slower than spec. Still, they're very popular, and widely used.

6

3D FAX

Ever wished that you could send colour pictures or even data and music by fax? Read on to find out how.

CD REVIEW

Working demo.

DEVELOPER
Infomaging
Technologies, Inc.
PUBLISHER
Software Compatibility
Centre Limited
CONTACT
01344 885224
PRICE
£99
MINIMUM SYSTEM
386, 4Mb, Fax modem,
Windows 3.1, 2Mb
hard disk

3D Fax is a time consuming and convoluted alternative to learning how to use a modem properly.

PC REVIEW VERDICT

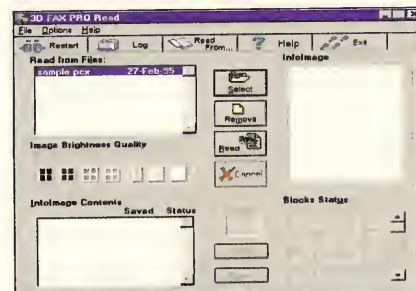
5

Nowadays, we're immersed in high technology from dawn to dusk, and as a PC Review reader, you represent perhaps the top 10 per cent of computer literate people in the country. It's funny then, how many people are still confused by modems, and find the prospect of using them to send data to their friends intimidating. The problem is, setting up communication links is a complicated business. But far more people know how to use a fax, and 3D Fax is a clever piece of software that lets you send data via your fax modem.

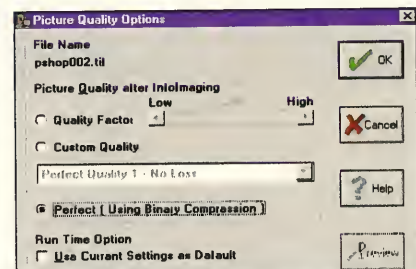
It consists of two modules; one to send and the other to receive. To send a file, simply load the send module, choose the file to be sent, and specify the device to send it to – a fax modem or printer. The file will be encoded in a special binary format that looks just like static interference on a TV screen. This image is then sent to the receiving fax, be it dedicated fax machine or fax modem. If the recipient has a fax modem, the transfer

produces a monochrome bitmap file. If they don't, the resultant fax will need to be scanned into the computer and converted into a bitmap. Either way, the bitmap is read by the receive module and converted back into its original file format.

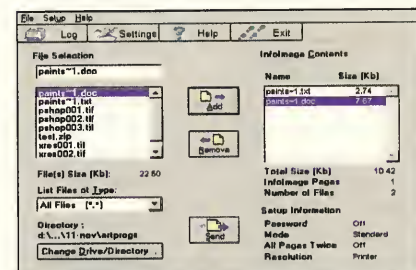
To be honest, there's altogether too much mucking about to the whole process, and although it's much quicker to send 50 pages of A4 text using 3D Fax than it would be to send as a standard fax, it's far, far slower than learning how to zip the text up and send it as data using comms software. Part of the trouble is that fax machines only communicate at a maximum baud rate of 14,400 bits per second, and older ones a lot less than that, whereas modems can zap along at up to 33,000bps. Furthermore, the program's compression technique is about 50 per cent less efficient than PKZIP or LHA. It's an interesting idea, but you might as well spend the time learning how to use your existing software properly. (MB)



Both sender and recipient have to muck about creating and reconstructing the file.



You can use 3D Fax to send any type of file, including colour pictures, via standard fax.



If you'd like higher phone bills rather than a headache, 3D Fax is the program for you.

MICROHELP ZIP

You don't have to be a rocket scientist to learn how to zip and unzip files. Here's a program that makes it easy.

As we all become more comfortable with the idea of communicating with each other electronically, the amount of information we send and receive will increase. If you're sending multiple files, it makes more sense to store them as a single compressed file that's easy to manage. That file can then be sent by modem, either by direct connection, or via the Internet, and the

receiver can separate and decompress the file at the other end.

The trouble is, there are lots of compression protocols, such as PKZIP, LHA, UUEncoding and more with equally stupid names, and the choice of protocol is entirely down to the personal preference of the sender. Unless you want to run a different program each time you decompress a file,

you'll need a multi-format utility such as (fanfare, please) this one.

MicroHelp Zip can extract TAR, G-ZIP and LZH archives, in addition to the major formats mentioned earlier. Although these various formats are all still used, the ZIP format is by far the most common, and this is the only type of archive the program will create. It can produce standard ZIP files and self-extracting archives, and will convert archives in any format into ZIP-ed ones.

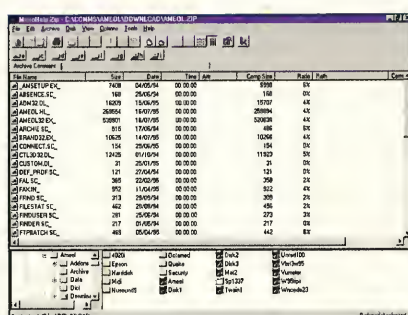
MicroHelp Zip comes complete with its own Explorer program, used to choose archives to be expanded. Double click on an archive, and you can view its contents in the upper part of the Explorer window. Click on any of the files in an archive to load them into an appropriate viewer. To add files to an existing archive, simply drag them from the bottom window to the top and drop them there – it's that easy! There's no complicated parameters to memorise and no tedious DOS commands to type. MicroHelp Zip is a whizz to use and priced sensibly. (MB)

DEVELOPER
MicroHelp
PUBLISHER
Roderick Manhattan
CONTACT
0181 875 4441
PRICE
£39.95
MINIMUM SYSTEM
Intel processor, 4Mb,
Windows 3.1, 3Mb hard
disk

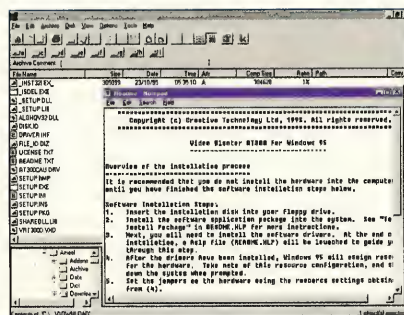
MicroHelp Zip is a one-stop solution for exploring and opening every common kind of archive file.

PC REVIEW VERDICT

7



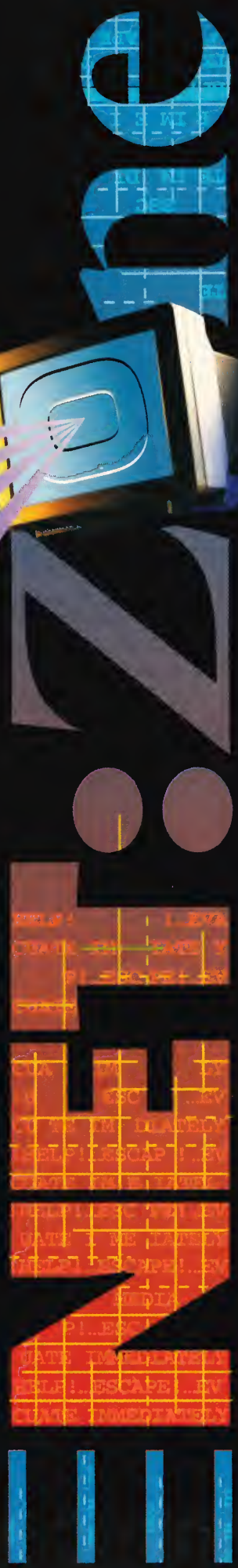
There's an Explorer program, so you have a drag-and-drop method of creating archives.



Double click on a file within an archive to load it into the viewer of your choice.

A remarkable 3-D graphic
quest through a futuristic
virtual reality fantasy world.

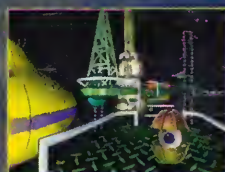
Login to NET:Zone.
Logout...if you can!



COMPRO
All Rights Reserved.

GAMETEK

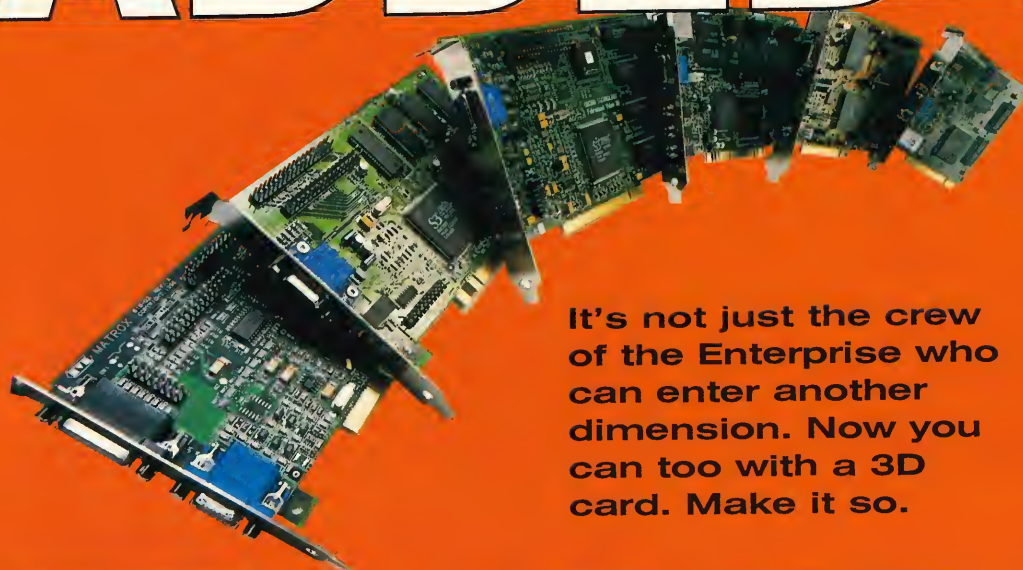
Published by
Gametek (UK) Limited,
3-31 Sheet Street, Windsor,
Berkshire SL4 1BY UK.



AVAILABLE ON PC CD - ROM



ADDED DIM



It's not just the crew of the Enterprise who can enter another dimension. Now you can too with a 3D card. Make it so.

Disney's classic movie *Tron* showed a tantalising and thrilling view of a virtual reality world. Convincing home VR systems are still along way off yet, but games like *Duke Nukem* and *Quake* are milestones along the way. *Doom* opened the door on 3D gaming, and developers have been churning out increasingly ambitious titles ever since.

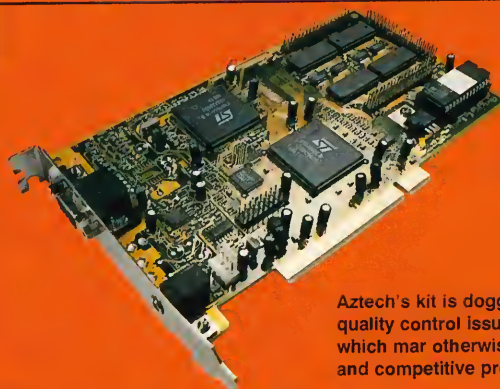
The biggest thing that prevents games like *Quake*, from becoming true virtual reality experiences, is processing power. Every object in the *Quake* universe is constructed from two dimensional shapes called polygons. By joining lots of these polygons, 3D objects can be created. The more texturally detailed and numerous the polygons, the

3D Galaxy

With adequate performance, the 3D Galaxy is, well, adequate... ish.

DEVELOPER
Aztech
PUBLISHER
Aztech
CONTACT
01734 814121
PRICE
£179.95

★★★★★



Aztech's kit is dogged by quality control issues, which mar otherwise solid and competitive products.

The 3D Galaxy is a card which on paper seems perfect for the average home user. It's specifications mark it as a fair but unexceptional all-rounder. But, as is so often the case with Aztech products, all is not well. For some reason, neither of our two test units wanted to work with a Dell monitor, although they were fine with an Idek Lliama screen.

The card comes with a dual Saturn joystick port, to which you can attach Sega Saturn joypads.

This is a nice extra, particularly as the card is supplied with *Virtua Fighter Remix* and *Panzer Dragoon*, conversions of two popular Saturn games. Better yet, Aztech has even bundled a Saturn joystick to get you started.

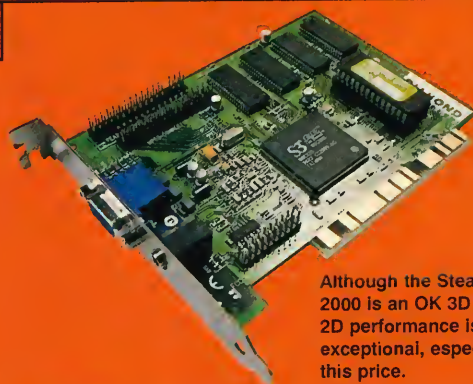
The card's performance is very mundane – its 3D speed places it right at the middle of the group, but its 2D operation drags it down to fifth place. However, with the extras, you can't accuse Aztech of overpricing.

Stealth 3D 2000

This is a 2D accelerator first, with passable 3D thrown in after.

DEVELOPER
Diamond
PUBLISHER
Diamond
CONTACT
01753 501400
PRICE
£152.75

★★★★★



Although the Stealth 3D 2000 is an OK 3D card, it's 2D performance is quite exceptional, especially at this price.

Although this accelerator is significantly cheaper than the Edge 3D (also by Diamond), the price difference seems completely disproportionate. For 2D graphics, this inexpensive card is unequalled, even surpassing the capabilities of the Mystique.

It uses the less than great VIRGE chip for 3D work, yet surprisingly its polygon rendering is the slowest of all the cards by a substantial margin. By contrast, its texture handling and filling

abilities are well into the upper half of the league. The only possible explanation is the drivers, which don't seem at all optimised. In fact, when we tested the Edge 3D using the same drivers its performance slumped markedly.

The card is supplied with *Descent 2*, *Destruction Derby* and *Compton's Encyclopedia*, as well as software for MPEG decoding. On balance, this is a moderately nippy card, at a very fair price.

Mystique

At less than £160, the Mystique is a fabulous performer.

DEVELOPER
Matrox
PUBLISHER
Matrox UK
CONTACT
01793 441100
PRICE
£158.63

★★★★★



The Mystique is powerful and versatile – a perfect hub for your total PC entertainment centre.

Matrox are already well regarded, thanks to their scorchingly fast 2D card, the Millenium. With the Mystique, they've set even higher standards. The 2D part of the card uses 64-bit architecture, (as fast as the Millenium), although it doesn't offer such high res. Its performance is only exceeded by the Diamond 3D 2000 card.

The 3D acceleration is the fastest bar none. Its raw polygon drawing abilities are by no means

exceptional, but its texture fill routines are twice as fast as any other card we looked at. When you take these two together, it gives an impressive performance.

The Mystique comes with a bundle of software titles, including three 3D games and a very credible software MPEG player. Upgrade boards to follow include a RAM card to take the 2Mb card up to 4Mb. Soon you'll also be able to buy a hardware MPEG board and a TV tuner.



ENSIONS

more convincing the object. The only problem is, manipulating these polygons in real time takes a lot of computer power, and even high-end Pentiums are still quite limited in their ability to manipulate lots of them.

This year, we've seen a rush of dedicated 3D graphics accelerators. The deluge was started by the Diamond 3D Edge and Creative 3D Blaster cards, but things have improved significantly in a very short time period. Those cards were used in addition to your 2D graphics card, but in this round-up, we're looking at half a dozen combined 2D and 3D graphics cards. The advantage of combining the two, is that you don't need two motherboard slots, or tons of connecting wires. Nor do you have to worry

whether about extra resources, or other compatibility issues.

A 3D card performs two functions: it increases the speed at which existing graphics can be animated, leading to a smoother game, and it provides higher levels of detail. Some games will continue to run at the same speed, but look far better, while others will run twice as quickly, with no visible improvement over the quality. Some games may incorporate both enhancements. There's no way to tell in advance how a game will take advantage of a 3D graphics card, but one way or another, your playing experience and the game's realism will be improved. Now find out which card produces the best results.

Stop press!

Just as we were going to press, two cards from ATI were couriered over to our test labs. The first of them is the fairly ordinary 3D Expression Plus, but the second made us pay attention. It uses a Rage II chip set and provides 3D performance that's second only to the Mystique. Add to that, equally impressive 2D acceleration and you'll agree, it's a real pity that the card didn't arrive in time for a more thorough going over. To find out more, phone ATI on 01235 833666.

Here's another card based upon the S3 ViRGE chip-set, and the difference between this and the 3D 2000 only lends weight to the theory that the other card's drivers let it down. The 332 is a 64-bit graphics accelerator whose 2D performance exactly matches that of the Mystique. It's 3D showing is not in remotely the same league, although its polygon handling is the fastest of all the cards. However, taking into consideration its texture mapping

speed, it only qualifies as "best of the rest", marginally exceeding the abilities of the Orchid card.

The inclusion of *Realimation* STE targets the card at people who are interested in serious VR modelling, whilst *Screamer* and *Terminal Velocity* are great for arcade fans.

It comes with two megs of EDO RAM, and you can add an optional hardware MPEG decoder, which comes in the form of a plug-in daughter-board.



Thanks to *Realimation*, Reality 332 is the only 3D accelerator here to acknowledge a more serious side to 3D as well.

9FX Reality 332

A big plus is the inclusion of *Realimation* for VR modelling.

DEVELOPER
Number 9
PUBLISHER
Number 9
CONTACT
01582 483381
PRICE
£186.83

★★★★★

To be honest, once the two cards are installed in a PC, you'd be hard pushed to tell the difference between this and the Reality 332. Both use exactly the same ViRGE chips, and the minute performance differences between them can easily be attributed to the percentage variation that you'd expect from any bench-marking process.

Given that fact, why choose this one over the other? Price, pure and simple! This is almost

£40 cheaper. It does come with a different software bundle too, and this time it's much more definitely aimed at the games player. In addition to *Terminal Velocity*, there's a cool tank game called *Havoc*, and Orchid have just started bundling *Actua Soccer*, a fast 'n' furious footie game that sold well on the PlayStation.

Software MPEG is included, and like its rival, you can add MPEG hardware if you're in one of those spending moods.



Another card, another ViRGE chip-set. This has virtually identical specs to the 332, but includes more games.

Fahrenheit 3D

One of the best action software bundles around. Great for gamers.

DEVELOPER
Orchid
PUBLISHER
Orchid
CONTACT
01256 817722
PRICE
£149.99

★★★★★

Compared to the others, this is a very costly card. True, it has 4Mb of RAM, rather than the more usual two, but that only accounts for £50 at the very most. It supports resolutions up to 1600x1200, so it has something to offer graphics pros, as well as games players.

It's another all-rounder, and like the 3D Galaxy, it comes with an extra panel into which you can plug Sega Saturn joypads, one of which is included. The card

incorporates wavetable sound, which can be with your sound-card, extending its MIDI abilities.

When you look at the Edge's graphical specifications, they seem very impressive. But that doesn't translate into equally impressive real-world results and the card is middling at best. In fact, it has the worst 2D effects in the round-up, and despite the impressive claims made for its NVidia 3D chip, it just didn't rise above the competition. (MB)



Although the 3D Edge is a capable performer, it's way too expensive, and its 2D is a real let-down.

Edge 3D 3400

Lots of bells and whistles, but nothing to justify its high price.

DEVELOPER
Diamond
PUBLISHER
Diamond
CONTACT
01753 501400
PRICE
£432.40

★★★★★

How to...

MASTER PAINT

HERE, KITTY
KITTY...

Here's an example of the kind of special effect available in Paint Shop Pro 4. With this image from CD Review, use the Freehand selection tool to draw around the main tiger's head. From Selections menu, choose Invert, so the background is now the active selection. From Image/Deformations choose Motion blur, with settings as shown. Now the picture has an added quality of depth, and the creature looks frighteningly close...

Paint Shop Pro, arguably the world's finest shareware paint package, has come of age. We get you started.

Sadly, it's almost impossible to find a graphics package which is a genuine pleasure to use straight out of the box. They either take too long to master or lack the facilities you were banking on. Not so *Paint Shop Pro 4*; beginners or pros can

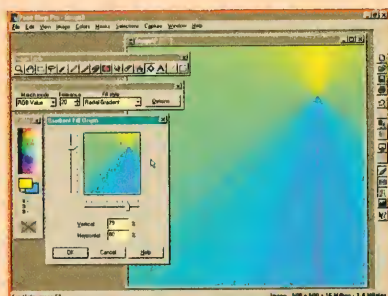
find something stimulating from the outset, and while you're having fun experimenting, you quickly pick up the many finer points of what's destined to be a classic program.

The joy of it is that even if you can't draw, you can soon master the software's

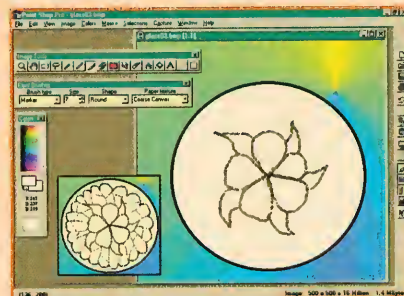
rich assortment of image manipulation tools that give a picture that personal touch. From then on it's a gentle learning curve to become at ease with the real graphics power of JASC's groundbreaker. The depth of thought which has evidently gone into *Paint*

Let there be light!

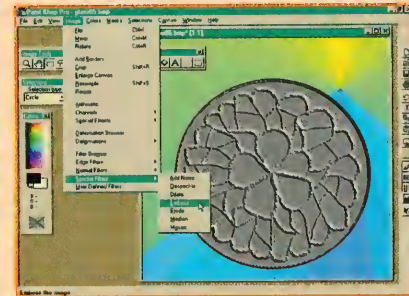
Start PSP4, and from the File/New menu create a new image with a white background, 16.7 million



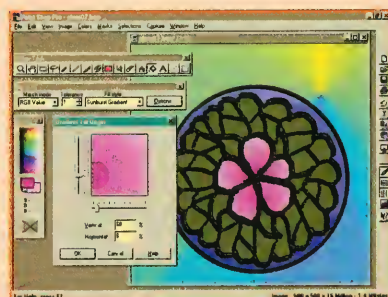
1 Firstly, click on the Flood Fill icon, selecting the bright yellow as the foreground colour (left click on the colour palette) and the mid-blue for the background (right click). Select Radian! Gradient as the fill type, and then select Options. Using the sliders, move the origin of the gradient to the top right. OK that, and then fill the image area. This gives the illusion of light streaming through the finished stained glass motif.



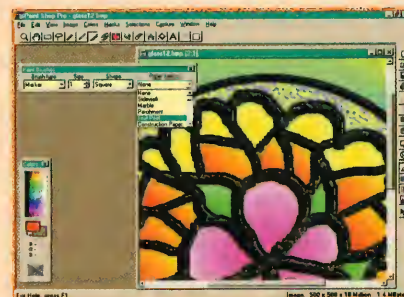
2 Your next move is to click on the Shapes Tool (Rectangle, far right of the tools bar). Then draw a white-filled circle and remember the start coordinates displayed at the very bottom of the screen. Next, using those coordinates, you have to draw a second circle, but this time making sure that it's outlined with an outer black border 6 pixels wide, which will give a solid black outline to the circle.



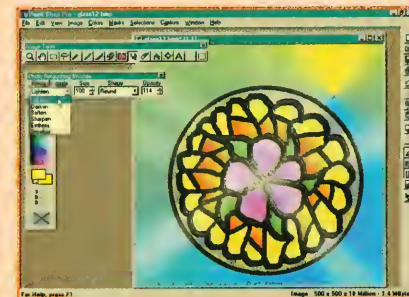
3 Using the Paintbrushes tool with a coarse canvas media as paper texture, and a width of 7, draw this flower shape in black within the circle. Don't worry about the shape, but do remember to join up each petal and leaf, so there are no gaps through which fill colours can leak. Now add angular lines around the design, to simulate glass fragments – this time with a brush 3 pixels wide (shown in the inset image).



5 Using the magic wand again (tolerance 1) carefully select the interior of each petal, one at a time, and fill with a gradient fill of mauve to lilac (or whatever colour takes your fancy). But for each petal, select Options from the gradient requester and change the emphasis so that the darker colour is always nearest the very centre of the petal. Similarly, use two shades of green for the leaves, and gradient fill those. It's looking good.



6 Now do the same for the outer shards of glass, this time using yellow and orange as the gradient colours. Select the Magic Wand tool, and set tolerance to 1. Click inside the circle's edge – the area bordering the stained glass and the circumference is selected. Select the Paint tool, and Fruit Peel as the media type; painting with blue now gives a dappled feel to the outer glass. Cleverly, your paint only goes inside the selection.



7 Once completed, it's time to add some heavenly light... Select the Photo Retouch tool, and with opacity set to 114, a 100-pixel wide brush, no paper texture and Lighten showing as the retouch mode, draw strokes starting at the centre of the circle right to the edge of the drawing area. Do this at various locations around the centre, and as many times as you like until the effect looks like radiating beams of sunlight.

SHOP PRO 4

Shop Pro 4 is quite stunning – from the ability to customise the toolbar to the choice of painting styles and surface materials.

Paint Shop Pro 4 brings the capabilities of high-cost professional software to the home user at a fraction of the cost. However, that's not to say it's a *Photoshop* killer, but it does offer major power and a really friendly interface. And like *Photoshop*, you can

incorporate Plug-ins – special effect image filters provided by third parties.

For an expert view on this great software, turn to our review on page 98. But don't just take our word for it, have a go yourself with the 30-day trial software featured on this month's *CD Review*. Once you've loaded this, you'll find our tutorial invaluable. Following the eight steps

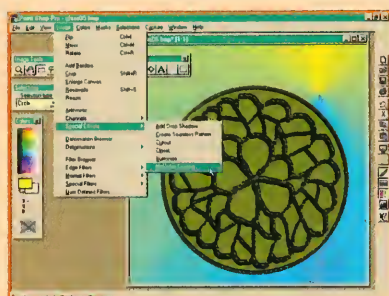
illustrated below, you can create a stained glass window effect, complete with radiating light. This introduces both the artistic and special effect tools, as well as laying the groundwork for any number of similar projects you might wish to undertake. We'll take in gradient fills, a new filter, text entry and photo retouching work, as well as drop shadows – and a little bit of magic! (PL)

FEATURING...

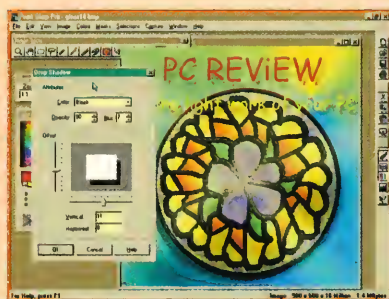
Among the powerful new features in version 4 are:

1. Multiple area select
2. Save and load selections
3. Transparency and opacity control of all selections
4. Multiple line text
5. Paper textures
6. Fill improvements, including gradient and radial
7. Special effects including drop shadow, cutout and buttonize
8. Photo-retouching brushes.
9. PSP4 can also work with 33 different file formats

colours and a resolution of 500 x 500.



4 Using the selection tool, with the Circular option active, drag out an area to enclose your drawn circle, using your noted coordinates as the starting point. Select yellow as the foreground colour and from the Image/Special filter choose Emboss. With the selection still active, select Image/Special effects/hot wax coating. Next, right click on the image to de-select it.



8 Now for text. Select a foreground colour, click on the text tool and then on the image. From the requester, choose a font and set the size. Type your message and click OK. Your text appears as a floating selection, which you then position. With the text still selected, choose image/special effects. Add a drop shadow, using a blur factor to soften the edges. We've added a drop shadow to the whole circle, which we selected using the Circular selection tool.



CD REVIEW

Fully working version of Paint Shop Pro 4.



Stunning – and so simple to do. Use Paint Shop Pro 4 to create your own special projects.

How to...

MAKE YOUR PC

Win95 not running quite fast enough? Give it a helping hand without using a screwdriver – or any extra hardware.

Want your PC to go faster? Of course you do; speed is intoxicating stuff. Win95 spoils you – it's clever and many aspects look after themselves. The swap file shrinks and grows dynamically, and it has 32-bit disk access built-in. Many things you adjusted manually under previous versions of Windows are now handled automatically. By and large it tunes itself, but there are still tweaks that can squeeze the last ounce of performance from your PC without you having to upgrade the hardware. Let us elucidate.

THE HARD DRIVE

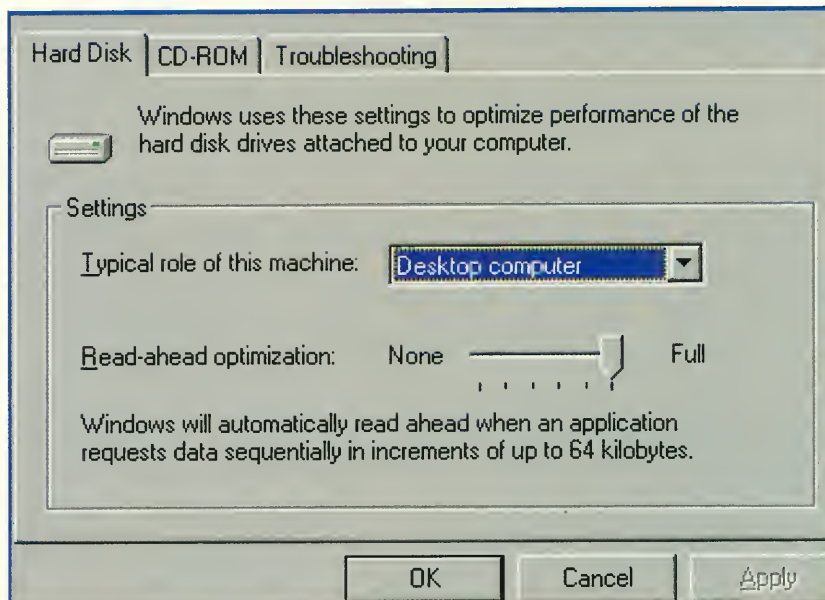
Your hard drive gets to see a lot of action. As your PC spends a large amount of time reading or writing files to your drive, any improvements made here will make a big difference to your system's overall performance.

The single most important thing you can do to improve performance is to defragment your hard drive. After a while, particularly if you've installed and deleted a lot of software, your files can become fragmented. Each file may be stored in a number of different physical locations on the hard disk, so the head of your drive has to whizz backwards

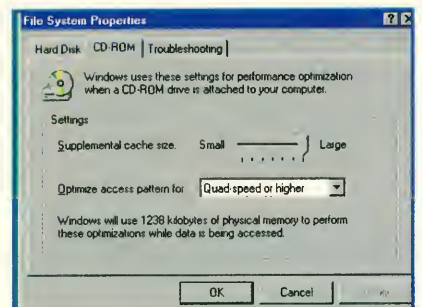
and forwards across the disk locating the sections of each file when you read it. When you defragment your drive, the files are collated into contiguous sections of drive, so it can be read in one go. The utility you need is supplied by Win95, and is called Disk Defragmenter. You'll find it in the System Tools menu inside your Accessories menu. You can also get to it by right-clicking on the drive you wish to defragment in Explorer and selecting Properties and then Tools. It's worth checking a drive's fragmentation status every month or two to keep it in tip-top condition.

Win95 automatically caches your hard drive. A portion of your memory is reserved to hold the data you've accessed, making any subsequent accesses very fast indeed since the data is already in memory. The first thing you can do is check for the presence of SmartDrive in your CONFIG.SYS file, if you've upgraded your system from DOS or Win3.1. It doesn't do any good and just gets in the way.

You can adjust the size of the disk cache under Win95. Click on the File System

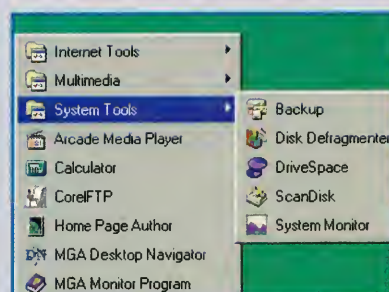


You can define the general level of hard drive cache as well as the read-ahead buffer from the Performance section of the System Properties box. Go for the maximum.

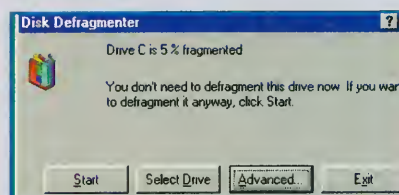


Set the CD-ROM drive supplemental cache size so you can squeeze out every second.

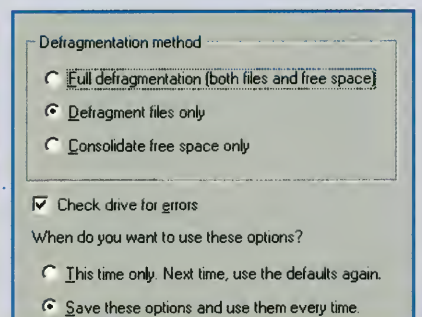
Five steps to hard drive heaven



1 The Win95 utility Disk Defragmenter is installed in your Start menu in the System Tools section of the Accessories menu.



2 This drive is only 5 per cent fragmented, as it's a pretty clean system at the moment. But when the figure starts to creep up you'll find that your system slows down considerably. Just click on Start and the defragmenting process is done automatically.



3 You can specify what type of defragmentation you want. Unless time is tight, go for the the full works.

GO FASTER

button on the System Properties box and set the slider for read-ahead optimisation to maximum. You can select the role of your PC from here, too. A Desktop system gives you a small disk cache, a Mobile system a larger one and a Network server turns over a huge amount of memory over to the disk cache leaving little for applications. If you have a decent amount of memory, say 32Mb, then the Mobile system setting speeds up disk-intensive operations. Click on the CD-ROM tab to set your CD-ROMs cache settings, set the slider to maximum and ensure the correct type of CD-ROM is chosen. Your drives are now as fast as they'll ever be.

THE GRAPHICS

The speed of your PC's graphics is a function of the processor speed and that of your graphics card. If opening and closing windows on the desktop seems slow, then there are a couple of adjustments you can make to speed up the display. Most modern

video cards work faster, sometimes considerably so, in higher colour depths. Win95 will often be configured to run in 256 colours rather than the more colourful 16-bit or 24-bit colour. Right-click on the Desktop and select Properties and then the Settings tab to see what colour depth your system is running at and experiment with higher settings: try 24-bit colour if you have the option. Some video cards will even enable you to run in 32-bit colour, overkill maybe, but it's far more efficient when using a graphics card with a 64-bit processor. The Matrox Millennium is one such card.

Another quick fix is to turn off the animation Win95 adds when you minimise and maximise windows; it's only a cosmetic tweak anyway. To do this you need to edit the Registry, where most of Win95's configuration is held. Many Win95 settings can be modified elsewhere, but there are a few that require you to edit Registry directly. Win95 installs a Registry editor but keeps quiet. You can run it by typing Regedit into the Run box from the Start menu.

Type Regedit into the Run box from the Start menu to fire-up the Registry editor. You navigate through the entries in the Registry in same way as you do through the directories in Explorer, double-clicking on a folder to expand it. Go to the entry HKEY_CURRENT_USER\Control Panel\desktop\WindowMetrics. Now right-click in the right-hand window and select a new string value. Call this new value MinAnimate. Then right-click on it and select Modify and give it the value 0. Exit and restart your system. Your windows are no longer animated giving the desktop a snappier feel.

Another quick tweak is to remove your wallpaper – it may look cute but it needs to be redrawn every time it reappears. You do this from the Background section of the

Display Properties box, just select None from the wallpaper list. One last thing to check is that the Advanced Graphics Settings from the System Properties box is set to maximum speed. This ensures that Win95 uses maximum Win95 acceleration.

DRIVERS

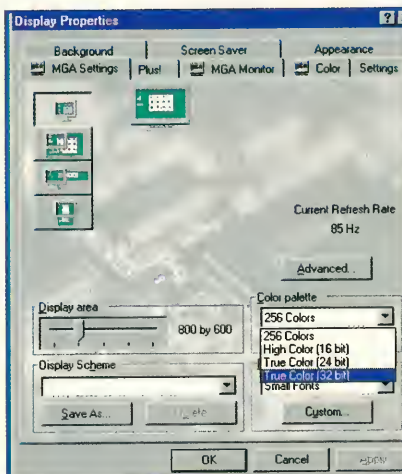
Drivers are programs that live between hardware and Win95. Each is specific to the hardware it serves and enables Win95 to communicate with it. Win95 is a 32-bit operating system, that is, it deals with data in 32-bit chunks. Win3.1 and DOS are 16-bit operating systems so Win95 already has the advantage, the larger the chunks of data, the faster things run. If you've any 16-bit drivers lurking about, you kill the advantage stone-dead. Without 32-bit disk access Win95 has to go through DOS to access your hard drive.

Right-click on the My Computer icon and select Properties, then click on the Performance tab. It'll tell you that your system is configured for optimal performance. If you have 16-bit file access or virtual memory, you'll need to track down the errant driver under the Device Manager section. The most likely cause is drivers meant for earlier version of Windows, particularly ones for removable drives. Replace these with kosher Win95 drivers from the offending hardware's manufacturer as soon as you can. In the meantime you could disable the driver altogether. Full 32-bit disk access is one of the real benefits of Win95.

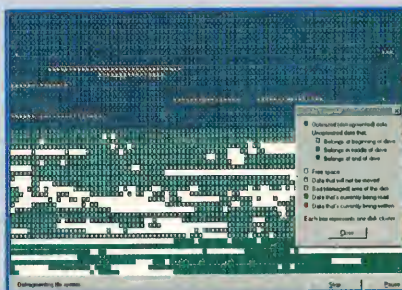
Your Win95 system should now be running smoothly, and at its full potential. And as long as you regularly defragment your drive, it should stay that way too. Win95 is intrinsically faster than any previous PC operating system. The next step is going to be the addition of a 32-bit FAT, File Allocation Table. This should be coming up in the near future, and will improve your hard disk's performance even further. We'll keep you posted. (OB)

MEMORY

If you fancy yourself as a bit of an expert then you could try looking at your PC's BIOS settings. If you don't know what these are then it's probably a good idea not to fiddle with them at all. If you can set your memory speed then try setting to a faster setting, say 50ns. You'll often find that the memory will be capable of operating faster than the official specification without trouble. If you get random crashes though revert back to the original speed. You can also experiment with the wait states.



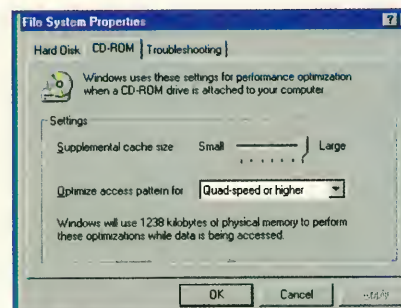
The Matrox Millennium works three times faster in 32-bit colour over 256 colours mode.



4 Click on the Show Details button to bring up this screen which shows you what's going on. Click on the Legend button to bring up the key.



5 All files now occupy contiguous space at the beginning of your drive, leaving a single clear space. Access times are now at their peak.



The System Properties box will tell you if everything is tickety-boo with a 32-bit file and virtual memory system running.

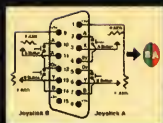
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At "one player mode" the AlfaTwin allows you to switch between two joysticks, with all the functions supported, by simply pressing the fire button of the joystick you wish to use.



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AlfaCommodor Pro

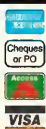


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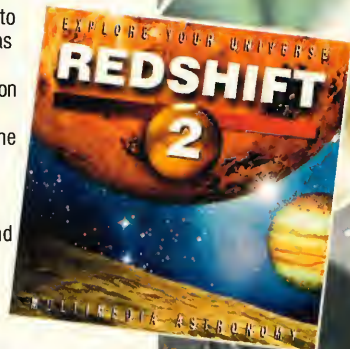


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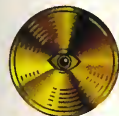
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How to... WORK FROM HOME



HOME OFFICE, HOW MUCH?

The prices quoted overpage are representative. Similar kit from different companies at the same price will generally perform to a similar standard. There isn't room in this article to point up the individual merits of each.

Your PC's much more than a kid's toy. In fact, it's a hugely powerful business instrument. Let us explain why.

Unbelievably, the PC was originally designed as a business tool. It's still capable of being one when not occupied with its normal role of entertaining you with damned good gaming.

Another obscure factoid: A US business analysis predicts 50 per cent of those in advanced countries will work from home for part of the time by the year 2000. The Department of Trade and Industry estimates that there are 2.6 million home offices in the UK already.

If you use a PC at the office, having one at home adds flexibility to your life. You might, for instance, spend Thursday working

'out of the office' as the phrase goes. Without distractions you'll probably have finished your work by lunch time.

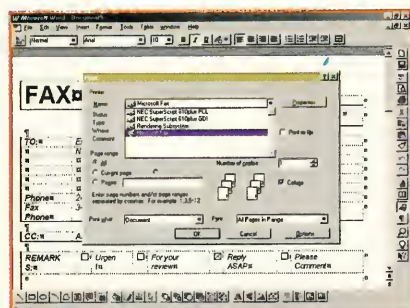
If you have a PC, it's surprising how little extra you need to create a useful working environment. In fact, you'll usually have a better PC at home than at work, anyway, as leisure software is more demanding. For work, you need a desk with lockable drawers, or a reasonable excuse for one. You need secure storage for stationary and work-related material.

A spare room in your house is ideal as a home office, but if this can't be arranged it's worth considering upgrading your attic, convert-

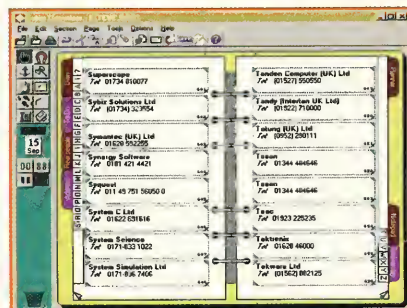
ing an attached garage or shooting one of the children. If you have a family, experience suggests the worst places to have a desk are the living room and a bedroom shared with a spouse. Avoid them. Dining rooms are a good choice, kitchens not so good.

OK, after vast upheaval and argument you have a working area (and maybe an impending divorce). If it's a spare room, it's important it also be used for other purposes some of the time. Put a bed in there too, or a TV. If it's solely used for business it could end up attracting business rates.

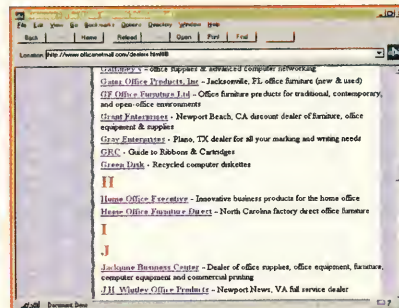
The first thing is business software. If you're working away from the office then use ►



MS Word is much more than a letter-writing tool. Using Microsoft Fax and your modem it's also a fax machine.



An absolute essential is organiser software. This is a version of Lotus Organizer, which looks like the paper version.



Net access provides e-mail but also information. It's a lot faster to compare offers on-line than hike around stores.

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► the same software. You may even be able to persuade the company to buy it. Otherwise go for *Microsoft Office* as 80 per cent of those you deal with will be using it. You may also need specialist software. Talk to others in the same line for recommendations – sales-people have axes to grind.

As soon as you use your PC for business, you'll collect kit. First, you'll want a phone next to it. You need this because modern business lives and dies on the phone. So run an extension in so you can have the phone right next to your PC.

The first thing you'll be asked on the phone is, "What's your fax number?", the second is your e-mail address. So, you need to fit a fax/modem to your PC and get yourself an Internet account. Now you see why you needed the phone socket next to the PC. It all just fits together. Choose a Net provider with a POP3 mail server, because it enables you to send and pick up e-mail from any Internet connection – from a cybercafe for example. Dead useful when you're away.

Then, of course, you need a printer. No point producing work if you can't check it. If mono printing is all you need, check out personal laser printers, otherwise, get a decent colour inkjet printer. Costs are about the same, so it's worth investigating.

Looking the business

Now you're looking the business. It's worth noting, though, how everything you've done so far is useful even without work to do on your PC. This isn't true of the next step.

It's possible to use a modern modem for data, for incoming and outgoing fax, and even make it perform as an answerphone – all on one phone line. These extended modems once had a complicated acronym but they're now called telephony devices. The Accura 28.8 Voice is a neat example.

However, it's really more fuss than it's worth unless you're extremely poor and enjoy fiddling all the time.

A much better solution is to put the fax/modem on one phone line and voice telephony and your answerphone on a different line. Gulp, it's a serious step. It's cheaper than a portable phone, though. It's at this point you have to start justifying the cost, after all, it can only get worse. Offices aren't full of electronic kit just for fun, it's there because it earns its keep.

You'll soon want a real fax machine because it's a lot less fuss than using a scanner to produce an image you can send from the PC. Oddly, unless you're in the graphic design business, you won't need a scanner, though a hand scanner can be useful on occasion. OCR – Optical Character Recognition – isn't an issue in the home office. Also, fax machines produce printout – don't believe anything you hear about paperless offices. Believe us, modern office practice generates huge amounts of paper, all of which needs filing. You'll soon need a filing cabinet.

A more serious issue, the one separating PCs used for fun from those used for work, is backup. You must *always* back up your data files. You'll have printouts of everything, probably more than one version, but you need file backup too. Floppy disks are enough for a few text files, but for anything more complex you need either a tape drive, or better, removable media devices such as the low-cost 135Mb per disk Syquest EZ135 or the 100Mb per disk Iomega Zip drive. If these aren't adequate there are versions holding more than 1Gb per disk – and they're fast.

OK, you're almost there now, but whatever you do, don't forget to get yourself properly insured. You've arrived when you start looking in the windows of office supply

houses wondering whether you can justify a desktop photocopier.

Finally, consider signing on at the tax office as self-employed – you can offset all your new kit, consumables and even phone calls against tax. The Government will help pay for it, if you earn something out of your new office. What are you waiting for? (OB)

Software

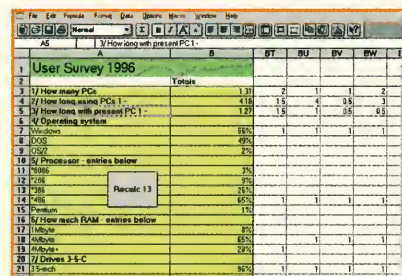
Windows 95 – £70, though you may already have it pre-installed
Microsoft Office (or similar) – £200 on competitive upgrade (lie a little)

Hardware

Pentium based multimedia PC – from £1,200
28.8Kbps internal fax/modem – £170 with telephony support
Laser or colour inkjet printer – from £300
Personal fax machine – around £230
Desktop photocopier – from £490

Services

Internet access – from £10 per month
Second phone line – £116 installation, £27 per quarter rental plus calls.



	A	B	BT	BU	BV	BW	LC
1	User Survey 1996						
2		Totals					
3	1) How many PCs	1,311	2	1	1	1	1
4	2) How many users PCs 1	4,134	1.5	4	0.5	0.5	0.5
5	3) How many with personal PCs 1	1,227	1.5	7	0.5	0.5	0.5
6	4) Operating system						
7	Windows	88%					
8	DOS	49%					
9	Other	2%					
10	5) Processor - entries below	2%					
11	Intel	2%					
12	Other	2%					
13	IBM	25%					
14	Other	65%					
15	6) Pentium	15%					
16	7) How much RAM - entries below	8%					
17	16MB	8%					
18	Other	85%					
19	8) Hard disk	15%					
20	9) Drives 3.5-C	95%					
21	10) Other	5%					

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Equipping the home office – options and essentials



Essential. Yes, it's obvious. The PC has to be the central component of your home office.



Optional. A fast CD-ROM drive isn't essential, but you'll find most software, including Win95, comes on CD now.



Essential. A fax machine is necessary. People will want to fax you. You will want to fax them. Simple.



Optional. Some of us can just about get by without e-mail and the Internet, but more than likely you'll need them.



Essential. Your vision is indispensable: protect your eyes from screen radiation with an optical glass screen filter.



Optional. You might want a paperless office, so a photocopier won't be essential... but it sure is handy.



Essential. There is no way you can have a home office without a printer. Mono laser or colour bubblejet?



Optional. It all comes down to your sort of business. If you need lots of images in digital form, get a scanner.

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Q & A

Our experts return in force to answer all your queries. On the docket this month we've got TrueType fonts, hard drive DIY, fine tuning DOS memory and plenty more of your problems solved.

Got a problem you just can't fix? Send it in to PC Review, Q&A, 30 Monmouth Street, Bath, BA1 2BW. Alternatively, e-mail us at pcreview@futurenet.co.uk.

WINDOWS

Changing Windows icons

Bored of the way your icons look? Tired of the same old grey styles you see on every Windows Desktop? You may be surprised to know how easy it is to alter the way your icons look.

Changing icons in Windows 3 is easy. In *Program Manager*, click on the icon that you want to change. Then choose *Properties* from the *File* menu, and you'll see a

dialog box containing information about the program. Click the *Change Icon* button and you'll see a scrolling list of icons to choose from. Initially, it shows the icons from the current program file and there's usually only one.

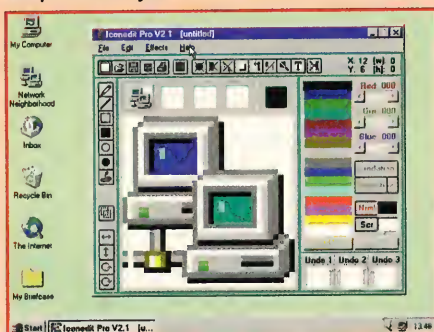
However, if you click on the *Browse* button, you can look for icons in other files. Icons are to be found in EXE, DLL and ICO type files. A good selection is contained in the *PROGMAN.EXE* file, in your *WINDOWS* directory. Windows 95 is, surprisingly, less flexible than

Windows 3 in this respect. It only enables you to change the icons of shortcuts to programs, rather than of the programs themselves.

To change a shortcut's icon, click on it with the right mouse button and choose *Properties* from the menu. Then click on the *Shortcut* tab in the following dialog box, and choose *Change Icon*. The rest of the procedure is

similar to that of Windows 3. Try looking in the file *SHELL32.DLL* for icons, in the *WINDOWS\SYSTEM* directory.

As far as creating your own icons goes, there are various shareware icon editors available for both Windows 3 and Windows 95. Most of them are pretty easy to use. Have a look at the Internet (<http://www.shareware.com> is often a good place to start) or in shareware libraries. One example of a good icon editor for Windows 95 is called *Icon Edit Pro*.



You can use *Icon Edit Pro* to make everything look the way you want it to in Windows 95.

WINDOWS

Mysteries of the Registry

Q Can you explain what the Windows 95 Registry is for? Do I need to worry about it or can I just leave it alone?

A The Registry is a Windows 95 feature used to store configuration information for your system and for your applications. Whenever you make changes to your system, such as adding a new piece of hardware or software, or altering an application's options, the new details are stored in the Registry. If you are familiar with Windows 3, it helps to think of the Registry as a replacement for all the separate INI files that used to be scattered about your system. The Registry uses two files in the Windows directory to store all your settings: *USER.DAT* for user settings, and *SYSTEM.DAT* for hardware and system settings.

To answer your second question, you can get along quite happily without ever knowing about the Registry. It is sometimes useful for making modifications to your system that aren't normally possible with the Windows 95 control panel programs. To get at the Registry you have to use a program called *REGEDIT.EXE*, which can be found in your *WINDOWS* directory. When you run it, you'll see a display similar to the Explorer, with a tree showing the Registry hierarchy on the left, and the contents of the current node on ▶

READERS TIP (WINDOWS)

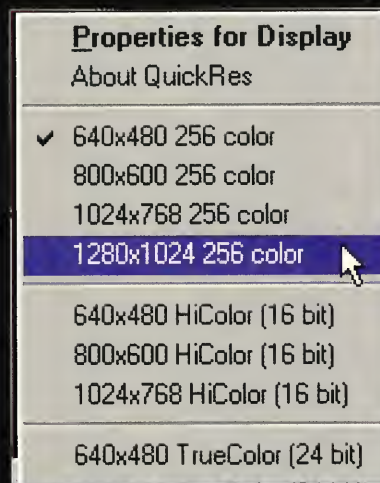
Do you often want to change the colour depth of your display in Windows 95? If the answer's yes, and you can't decide on a colour, you're probably fed up of having to reboot your computer every time. You'll be pleased to know that there is a much less tiresome way of going about this, and it comes in the form of a useful program from Microsoft, called *QuickRes*.

This time-saving program places a new icon on the right hand side of the taskbar, and enables you to instantly switch between all of your available graphics resolutions and colour depths. But it doesn't stop there – *QuickRes* also gives you a quick shortcut to the Display

control panel, to enable you to change your other screen settings.

QuickRes is freely available from Microsoft, and comes as part of the *PowerToys* suite of handy Windows 95 utilities. These include a new taskbar based CD audio player, an analog clock and a program called *TweakUI* which you can use to alter many of the Windows 95 user interface elements. Go to the Microsoft web site at <http://www.microsoft.com/windows/software/powertoy.htm>.
Sue Anderson, Reigate

QuickRes helps you change resolution quickly.



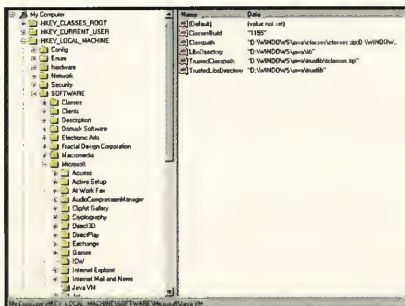
TASKBAR TRIVIA

If you don't like having your Windows 95 task bar at the bottom of the screen, you can drag it to the side you prefer. It behaves just like a toolbar in a Windows application. Also, if you find you usually have so many windows open that the task bar becomes hopelessly cluttered, you can make it larger. Drag the edge of the task bar to resize it, just as you would a normal window.

RAPID REBOOT

Rebooting Windows 95 can quickly become tiresome if you find you have to do it often. One trick that may help speed things along is to only restart Windows 95 itself, rather than resetting your entire machine. To do this, pick Shutdown from the Start menu and select 'Restart the computer' as usual, but hold down the Shift key at the same time as clicking the Yes button. You will then see a message telling you that Windows is restarting.

► the right. If you're going to play around with the Registry, it's probably best to make backups of the Registry files first, and possibly even make an emergency Windows 95 startup disk in case things really go wrong! You can make such a disk using the Startup Disk tab in the Add/Remove Programs control panel.



The Registry editor in Windows 95 can be both useful and dangerous, so tread carefully.

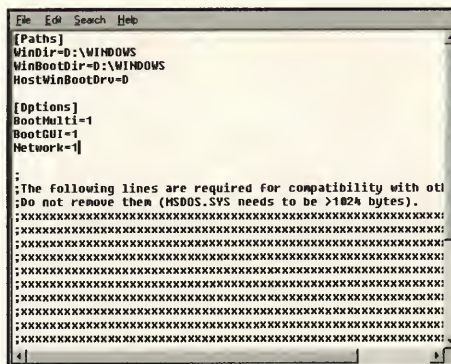
Boot Control

Q Is there any way to exercise more control over the Windows 95 boot process? For example, can I force the boot

menu to be displayed every time I start my system? It would be nice if it were possible to speed up booting, too!

A Windows 95 uses a file called MSDOS.SYS in the root directory of your boot drive to control the boot process.

The file is usually stored with the read-only, system and hidden attributes set, so if you want to edit it you first have to disable these using the Properties dialog box. Then open MSDOS.SYS in Notepad – you'll see it's a plain text file. In fact, you may find it reminiscent of Windows 3's INI files. The file contains two sections, the first starts with a [Paths] heading and the second with an [Options] heading. You



Edit the MSDOS.SYS file to control the way Windows 95 starts up.

can add or modify the items in the options section to control what Windows 95 does when it boots.

For example, Windows 95 normally waits for two seconds when it starts up, to enable you to intervene by pressing one of the function keys. If you add the line

BootDelay=0 to the options section, you can get rid of this delay. If you add BootMenu=1, the boot menu will be displayed automatically at boot time. You can disable the display of the Windows 95 logo screen by adding the line Logo=0. Make sure you don't remove the lines at the end of the file which start with semicolons, as they're needed for compatibility reasons.

HARDWARE

Do you need three?

Q I'm looking to buy a new mouse for my Windows 95 PC because the quality of the one that came with my system is rather poor. I've seen mice advertised with two or three buttons, but I thought Windows only used two buttons. Is there any point in getting a mouse with three, and would it work with my PC?

A Firstly, three-buttoned mice will work with your computer. You will probably find that the middle button is simply ignored by your software. Sometimes the mouse will have a switch to toggle between two- and three-button operation, in which case you usually have to select one or the other and stick with it.

You're correct in saying that Windows only uses two mouse buttons. In fact, the mice sold by Microsoft have two

buttons. This doesn't mean that the third button is useless, though. Generally, the manufacturer ships specialised Windows drivers with the mouse, along with configuration software, such as a control panel. This

enables you to assign extra functions to the middle button. For example, you could set up your mouse so that pressing the middle button is the same as doing a double click on the left button.

Another possible reason for having three buttons on your mouse is that you have some software that specially supports them. Plus, if you ever decide to run UNIX on your PC, you'll find the three buttons very useful for X Windows.

If you're considering getting a new mouse, we'd advise you to keep an eye out for the Microsoft IntelliMouse. Rather than a third

button, it has a roller in the middle of the mouse which functions with *Microsoft Explorer*, *Office 97* and multimedia titles like *Encarta World Atlas 97*. The roller will, among other things, be used to scroll up and down documents and Web sites, and will have a zoom function with the maps in *World Atlas*.

Big time transfer

Q I sometimes run into a problem when trying to transfer large files from my PC to another. Is there a better way of doing this apart from splitting up a document into smaller files that will fit on a 3.5-inch floppy disk?

A You basically have two choices when it comes to moving large files between computers. You can firstly connect the computers together, using some kind of network connection, and transfer the files from one hard disk to another. This can be technically tricky, especially if the computers are not physically close to each other, and expensive if you want to do it over a phone line.

The second option is to put the files on to a medium with a higher capacity than a single floppy disk. The simplest method is to use more floppy disks. You've already tried this by splitting up a big file by hand, but this won't always be convenient. The best way to spread a large file over multiple disks is to use a program such as *PKZIP*. This splits up the file automatically, and compresses the data so it takes up less space. You can use the *PKUNZIP* program at the destination to recreate the original large file.

But sometimes floppy disks won't cut it, and you have to look for an alternative. One of the best choices these days are removable storage hard disk products, such as the Zip drive from Iomega. You need to buy a special drive to plug into your PC, but the Zip disks will store 100Mb of data. If the destination PC doesn't have a Zip drive, you can simply take yours along with you.



If you fancy having disks that store 100Mb, try a Zip drive.

Invisible modems

Q I have a number of games which enable me to play with two players if two PCs are connected together. I need something called a 'null modem cable' which goes between the serial ports on them. What is this, and can I make one myself?

A The term 'null modem cable' comes from the fact that the serial ports on your PC are often used to connect to a modem. The wiring of the cable between the two assumes that at one end is a PC and at the other is a modem. In such a cable (like a normal modem cable) the pins on the plug at each end are wired straight through. When you want to connect two computers together without any modems in between, the wiring has to be different. Some of the pairs of wires that before were connected straight through, have to be swapped around so the data output from one PC goes into the input of the other, and vice versa. By swapping some wires over, the modems that are assumed by the wiring have been eliminated, hence 'null modem cable'.

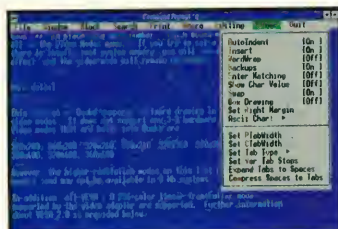
The wiring is simple, though, and if you're handy with a soldering iron you can probably make a suitable cable yourself. The connections to swap are the Tx and Rx (pins 2 and 3) and the RTS and CTS (pins 4 and 5). Having said this, you'll find that most computer shops sell null modem cables very cheaply, and you'll get a high-quality construction.

DOS

Better editing

Q Are there any DOS text editors around that are better than the Microsoft offering? I often need more sophisticated functions than are available in the standard DOS EDIT program.

A If you want to do some serious editing in DOS mode, you will certainly need a better editor than the Microsoft one. One popular choice is a program called TSE, which used to be known as QEdit. It's available as shareware from the usual PC software archives. It has a number of useful functions which the usual MS-DOS editor lacks. These include a macro facility for recording sequences of commands, auto indent and word wrap, lots of mouse shortcuts, and a handy built-in ASCII table.



TSE provides many useful text editing functions

Quick search

Q For some time I've been looking for a way to search for files on my hard disk in MS-DOS, in a way similar to Windows 95's Find command in the Start menu. Can you tell me how I go about this?

A Although MS-DOS does not have a separate find or search command, you'll probably be surprised to learn that it can do what you want. The trick is to use the /s switch to the DIR command. This will look in the specified directory and all its subdirectories for the file you want to find. You can use wildcards in the file specification, too. So for example, to search for all the text files on your C drive, you would enter DIR /S C:*.TXT. If you add the /B switch, you will get a more concise listing.

READERS TIP (DOS)

You can customise the DIR command so your personal preference of command line switches is always used. Put the switches you want into an environment variable called DIRCMD. To do this, add a SET command to your AUTOEXEC.BAT file. For example, if you like to always use the /w and /l switches, to force the DIR command to show wide, lowercase listings, add the following line: SET DIRCMD=/w /l. Now, when you type DIR the switches are applied automatically. If you need to temporarily override one of the switches you put in the DIRCMD variable, then put the switch on the command line with the switch letter preceded by a minus character. So to disable the effect of the /w switch in the DIRCMD variable, enter DIR -w.

Peter Barlow, Hastings

QUICK DOS

DELETE

The DELTREE command in MS-DOS is useful for deleting whole directories in one go. However, it can also be used for quickly deleting files which have their hidden, system or read-only attributes set. DELTREE will delete such files immediately, without you having to tinker with the ATTRIB command. So you can simply give DELTREE the name of the protected file you want to get rid of. If you add the /Y flag, it won't even ask you to confirm the file deletion.

DOS TIP OF THE MONTH

The perennial DOS problem is having software that requires different configurations to run. This means you may have to boot up one set-up to run certain games and another for others. You could use two, three or even four system boot disks. But there is a better way, and it comes in the form of DOS 6's multiple configuration capability.

This enables you to set up a number of different configurations and have a menu appear at boot time, from which you pick the one you want to use. First you define a menu in your CONFIG.SYS file, by placing a line with [menu] on it at

the start, followed by a number of MENUITEM commands. Each MENUITEM command defines a label, which refers to a section later on in the file. You can follow the menu with a [common] section which is executed by all the configurations, and follow that with sections headed by the labels defined previously. Only the command lines in the section you select when the boot choices appear will be run.

You will also probably need the same optional execution in your AUTOEXEC.BAT file. To get this to work, you can examine the contents of the

variable called CONFIG to determine which configuration was selected from the menu. The value of the CONFIG variable will be one of the labels defined in your CONFIG.SYS. You can then define labels in the AUTOEXEC.BAT file which are the same as the ones in the CONFIG.SYS file. Then a command such as GOTO %CONFIG% will enable you to automatically jump to the section. Define a label called :END at the end of the file, and then put a GOTO END at the end of each section, to skip over the others. For more info on how to set this up, look at the on-line help in MS-DOS (type HELP).

MS-DOS Help: Multiple Configurations -- Examples

Defining multiple configurations in your CONFIG.SYS file

The following CONFIG.SYS file defines two configurations:

```
[Menu]
menuitem=Steve
menuitem=Lisa

[Common]
dos=high
buffers=15
device=c:\dos\himem.sys

[Steve]
files=20
device=c:\dos\emm386 2048

[Lisa]
files=40
device=c:\net\network.sys
```

<Alt+C=Contents> <Alt+N=Next> <Alt+B=Back>

00006:0

The MS-DOS HELP program has an example CONFIG.SYS file for multiple configurations.

MIXED BAG TIP OF THE MONTH

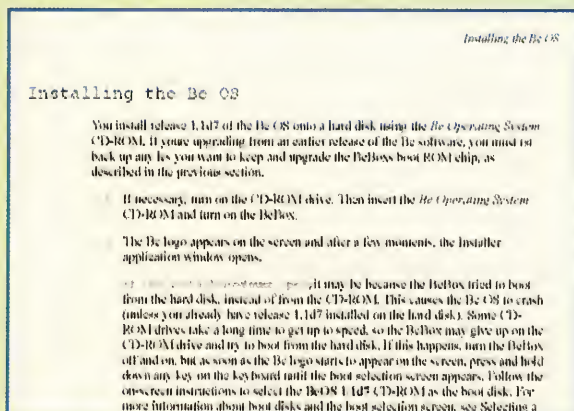
Postscript preview

You may sometimes get given clip art in the form of an EPS file. This format is encapsulated PostScript and when you import it into a program on my PC you may find that instead of a proper graphic all you get is a grey box or an extra blocky version of a picture. In actual fact, however, the PostScript format is meant to produce high quality output. Here's how to get encapsulated PostScript working for you.

PostScript is in fact a specialised computer language used to describe the layout of a document or picture in terms of text and lines. If you look at a PostScript file with a text editor, you'll see that it contains lots of plain text. This actually represents vector formulae which are used to display the lines, curves and geometric shapes which make up the graphic image. To run the PostScript program and produce the picture it represents you need a piece of software called a PostScript interpreter.

Just such an interpreter can be found in every PostScript printer, as you would expect. Most of your Windows applications, however, do not contain a PostScript Interpreter, mainly because of the cost of licensing it. Thus when they come across your imported PostScript files, the best they can do is simply show a rectangle which represents the size of the picture. EPS files can contain a low resolution preview of the final image, which is why you sometimes see a rough picture of what the final result will be. When you come to print the file on a PostScript printer, you get the intended high resolution image.

You can get Windows programs which will enable you to see a PostScript file on your screen, however. One example is a shareware program called RoPS, which you can find on the Internet (try searching in <http://www.shareware.com>) or in PC shareware libraries.



RoPS will display PostScript files on your screen.

MIXED BAG

Upgrade options

Q I have a 486DX2/66 PC with 8Mb of RAM, and I'm thinking about upgrading my machine to get better performance. What are my best options, or is it worth me buying a new PC?

A Buying a new PC will give you the best performance improvement, because you will benefit from the latest motherboard designs and technologies, such as the PCI bus and 64-bit Pentium data paths. However, you can squeeze more speed out of your current system with one or two well-chosen upgrades.

Firstly, adding another 8Mb of RAM will give you a significant improvement, both with games and Windows applications. The jump from 8Mb to 16Mb in a low-end PC gives the most significant performance boost of any RAM upgrade.

Secondly, you can increase your processing power with an Intel OverDrive processor. You can upgrade your 66MHz 486DX2 to an 83MHz Pentium OverDrive processor. This still won't be as fast as a true Pentium, though, because you are still using your old 486 motherboard. You'll probably appreciate the improvement, though.



An OverDrive processor will give your PC a performance boost.

Other upgrade areas worth looking at are your hard disk and video card. Fast 1Gb hard disks are cheap these days, and the more space you have at your disposal the more you can do with your PC.

Graphics programming

Q I have been using Borland's C++ for some time to write basic DOS programs, but I am now interested in getting into graphics programming. I have heard that there are libraries available to help with this – can you suggest any?

A One popular library for DOS graphics programming is the *WordUp Graphics Toolkit*, from Egerter Software (see its homepage at <http://www.egerter.com>). It provides a wide range of fast graphics drawing and manipulation functions, along with other features which may be of use to games programmers. There is a version specifically for the Borland C or Turbo C compilers. You can download the toolkit from the web site for evaluation purposes, or you could ring Egerter (in Canada) on 00 1 519 641 7542.

Notebook displays

Q I've been looking at various notebook PCs. I would like as nice a screen as possible, because I will spend a lot of my time staring at it! There seems to be a lot of price variation based on the type of LCD screen the machine has. Is it worth going for one of the more expensive ones, or will I be wasting my money?

A Most notebooks have colour displays, but you're likely to come across three different kinds of LCD technology: passive matrix, dual scan and active matrix (also known as TFT, thin film transistor). The main difference is the speed at which the image can be updated. For example, when you move the mouse pointer on a passive matrix display, it disappears while in motion and reappears once you stop moving it.

This happens because the movement is too fast for the screen to keep up with. An active matrix display gives the best results, and they are as good as a normal PC monitor. Dual scan displays fall half way between the two, because they split the screen into two passive matrix areas, giving improved update speed, but still not as good as TFT. Basically, as is so often the case with PC hardware, the more money you spend the better the performance. If you want to use your notebook for long periods, you're better off spending the extra on a TFT screen.

READERS TIP (MIXED BAG)

When transferring text files between a PC and another platform, such as a Macintosh or a UNIX machine, you may not get the results you expected. For example, you could find you get extra blank lines between each line of text, or that all the lines have merged into one. The main problem is that all three systems use a different combination of special characters to mark the end of each line of text. The PC's MS-DOS text files use two characters, a carriage return (CR, ASCII code 13) followed by a linefeed (LF, ASCII code 10). The Macintosh uses a single CR at the end of a line, and UNIX systems use a single LF. This all means

that you have to take care when transferring files from one platform to another.

For example, if you take a Mac text file and move it on to your PC, you'll have to use a program that does the conversion for you, at one end or the other. On the Mac, the popular text editor BBEdit will let you save a text file in Mac, MS-DOS or UNIX formats. On MS-DOS, a public domain program called CRLF will take a Mac or UNIX text file and convert it to the correct format. This is often useful when decoding attachments to e-mail messages originally written on a different platform.

Alain De Vigny, Notting Hill

Error arena

Q After adding a new hardware device to my PC, the *Device Manager* in the System Control panel shows a danger sign next to one item. Is the hardware faulty?

A This indicates a conflict between your hardware devices. The devices are not properly configured. The troubleshooting section in Windows 95 help (click Help in the Start Menu) gives tips for resolving such hardware conflicts. But often you have to fix things by hand. Make sure each hardware device has a unique IRQ, I/O address range and DMA channel. Double click on the Computer icon in *Device Manager* to check these out.

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Brother M1009/1024/1109/1209	3.90	3.75	3.55	3.35	Star LC200	3.00	2.85	2.65	2.45
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Oki ML182/183/192/193/195	3.17	3.02	2.82	2.62	Star LC24 - 10/20/200	9.63	9.48	9.28	8.88
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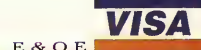
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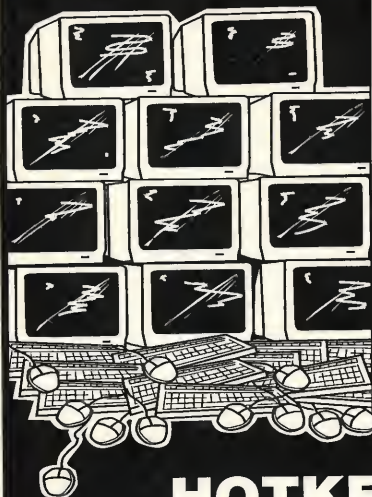
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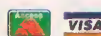
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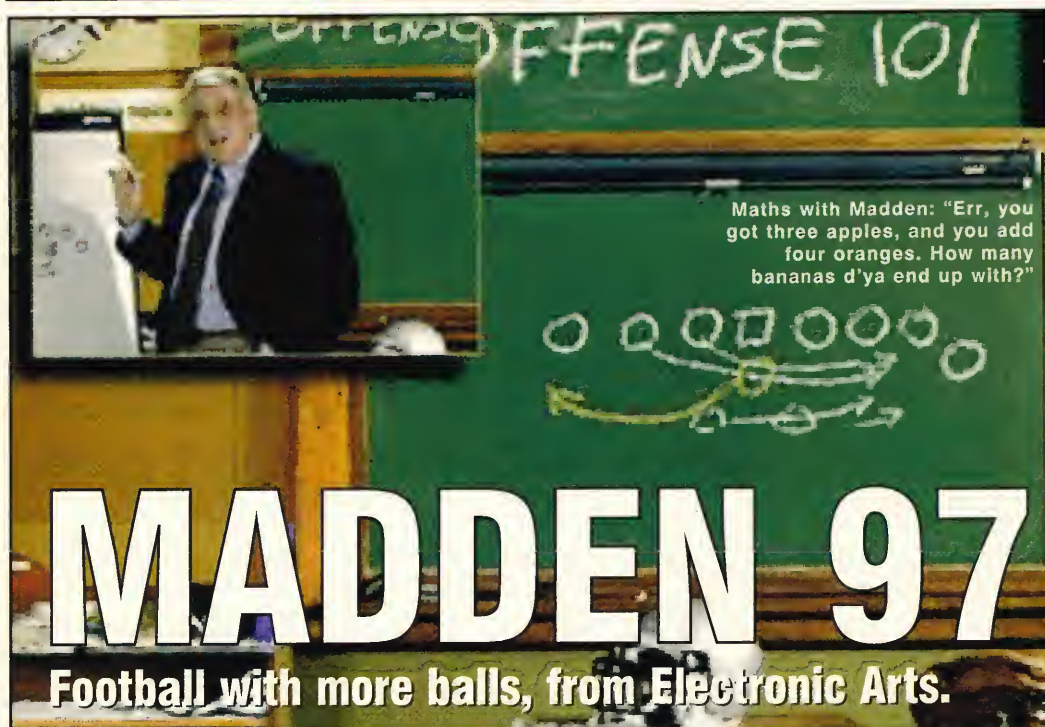
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CD REVIEW



MADDEN 97

Football with more balls, from Electronic Arts.

This month, we're proud to bring you the exclusive, fully playable demo of *Madden 97*, the new football game from Electronic Arts. (That's football with a capital American). British gridiron followers are probably more familiar with Channel Four's sprightly Gary Imlach, but Stateside fans will know that the portly *Madden* lends significant weight to the title.

First off, since it's been nine months since the Superbowl we'd better run through the rules. When you've got the ball, you're trying to get to the endzone, otherwise you're trying to stop the other side. When

you first get hold of the ball, you have four chances to move the ball ten yards. If you fail, the other team gets possession. If you succeed, repeat as above. The number of yards required is reduced as you move forward, and increased if you're tackled behind the line of scrimmage. You can punt the ball downfield at any time, giving possession to the opposition. You also lose possession if the ball is intercepted (the opposition catches it) or you fumble (drop it).

Before a down – one of the four goes – both sides decide which moves they are going to play. There are hundreds of such moves, but you

can get a rough idea from on-screen diagrams. Select a set of moves, then one of the subsequent specific moves. The quarterback now runs to line-up, gets hold of the ball and decides who to pass the ball to while the defence tries to flatten him. (That's what you wanted to hear, wasn't it? *Madden* comes with a full complement of oohs and aahs, perfect for sadists.) A touchdown gets you six points, a conversion one point and a field goal three points.

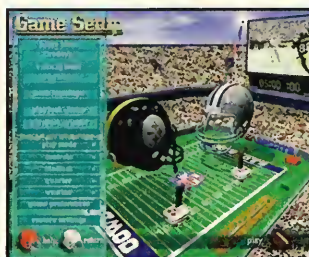
You'll find full key instructions in the CD disc inlay, and also in the README file. Trust us, you'll need them. Americans invented this game.



If you lose track of the ball, watch out for the X, which marks the spot. So to speak.



Clarke Kent turned in a useful low-profile performance as a line-backer for the Dallas Cowboys.



The main setup screen is where you set up weather conditions, controllers and the other options.

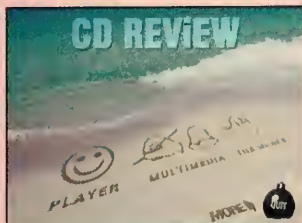
From: Electronic Arts ☎ 01734 303322 Minimum system: P60, 8Mb RAM, 30Mb hard disk space

Getting started

Summer rolls on and our coverdisc's soothing beach front-end is coming to the end of its seasonal life. Featuring three separate menus for Windows 95, Windows 3.1 and DOS, it aims to be all things to all PC users. Before you run our menu, it's a good idea to quit from any other programs that are already running. Here's how to get the menu you want up and running:

Windows 95 users.

Pop the CD in the drive, wait a few seconds and the Windows 95 menu autoruns. This feature is not supported on all machines, so if nothing happens click on Start, then select Run. Use the Browse option to locate the file REVIEW95.EXE, and you're into the action.



The CD Review front end is so cool it even makes wave noises.

Windows 3.1 Menu.

Click on File, then Run, then use the browse option to select the file REVIEW.EXE. Double click the file name to start the menu.

Our Windows menus are split into five sections, the contents of which are described in more detail on the following pages. To get to a section, click on its icon on the main screen, and use the arrow keys to get to demos.

DOS Menu

Even in these enlightened times, many games require DOS to run, so you'll find most of this month's in our DOS menu. Type PCR or GO at the DOS prompt of your CD-ROM drive. You'll be asked how many colours you want to run the menu in. Most systems can support 256 colours, so make this your first choice.

The program remembers your choice and goes straight to the relevant menu next time you run it. If you change your mind, simply type TRY AGAIN at your CD drive letter (usually D:). Once the DOS menu is up and running use the arrow icons to scroll through our demo selection.

Lords of the Realm 2



Medieval brutality as viewed from overhead playing Lords of the Realm 2.



And even more medieval brutality brought to life, this time in a 3D mace battering sequence.

The clashing of swords and the clinking of chainmail are in the air as this *Lords of the Realm 2* demo takes you way back to the medieval days of 13th century England, when being king meant everything. Days before tabloids when bishops could freely have sex with the serfs and when a royal flush simply meant the monarch had emptied his or her potty out the window – most likely on the head of a passing pretender.

Your goal in this game is to be appointed king of a six-country land, avoiding any excrement thrown by your chief enemy in the demo, the knight. First, you should try to nurture your population so that it grows. This is best done by keeping them happy. Low taxes and lots of food should do the trick. Get a herd of cattle going and gather timber until the population reaches 500.

You raise your army by removing serfs from serfdom by clicking on the armoury button and using the right hand slider panel. Do so only when you have sufficient people, which is roughly 700 people in your county. Arm your tribe with swords, pikes and bows, then try and attack the territory to the north. Now you're ready to mine and make your weapons. To build up your arsenal, put a blacksmith to work near your towncentre.

Now is the time for consolidation. Spend the next few turns churning out new weapons and pretty soon you'll be ready to teach that excrement-chucking knight a lesson in medieval manners. And remember, in the full game you'll be facing more opponents in bigger realms and the stakes will be much, much higher.

From: Sierra On-Line ☎ 01734 303322 Minimum system: 486/66, 8Mb RAM, 25Mb hard disk space

Z

Pumped up robotic strategy blasting is the name of the game here. This demo thrusts you into a single level of Z in which you'll be obliged to capture territories with the eventual aim of blowing the blue side's fort to smithereens.

To take a territory, send one of your robots in to capture the flag. When you invade a zone get the factories within it to work for you. Newly-captured ones will probably be manufacturing grunts, but click on them to cycle through a range of options including, possibly, tanks and heavily armed soldier-bots.

Use your strategic brain to work your way to the enemy base. Kill everything, being sure to use objects like the radar installations in your territories to your best advantage.



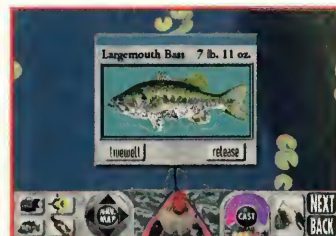
General Zod, the popular face of Z. He models himself after Robert Duval's character in *Apocalypse Now*.

From: Warner Interactive
☎ 0171 391 4318
Minimum system: 486DX2/66, 8Mb of RAM, 20Mb hard drive

Trophy Bass 2

A *PC Review* exclusive: the demo of Sierra's upcoming fishing challenge.

As Britain's three million fishermen know, we love a good fishin' sim, and *Trophy Bass 2* thrives on the accuracy of its virtual lakes. To create your own Lake Kissimmee, select Quick Fish from the File menu. In this demo you can't change your lure, adjust your casting style or navigate the lake. But you can catch fish. Click and drag the target out to the shallow parts of the lake to the top and right and click on cast. Be careful, even small fish put up a fight, so watch the drag setting too.



Can you catch a bigger one? Have a go with our demo of *Trophy Bass 2*. Watch for our review next month.

From: Sierra On-Line
☎ 01734 303322
Minimum system: 486/66, 8Mb RAM, Windows 95

Syndicate Wars

Syndicate Wars is a bloody brilliant game. This demo starts with an animation in which members of the evil New Epoch Cult rub out some coppers in a blaze of gunfire.

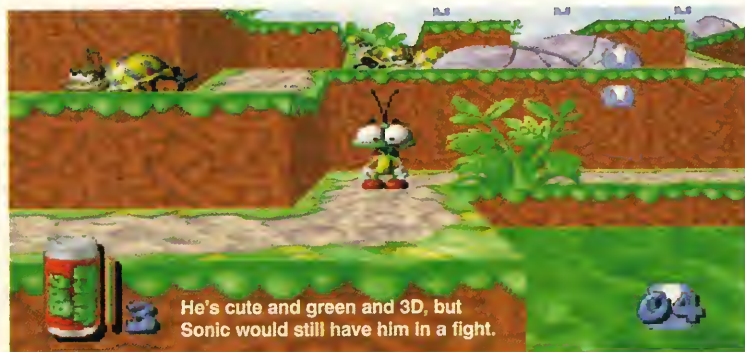
Next, you'll see your agents standing on the grimy city streets awaiting your commands. Hit [L] to group the agents together and left click on the landscape where you want them to walk to. Click the weapons icons to draw their guns. When you begin to see the Cult members, scroll the mouse pointer over them and it turns into a target. Right click to blast 'em!



Blasting away evil criminal cult members in *Syndicate Wars*. See the CD Review inlay for a full key listing.

From: Electronic Arts
☎ 01753 549442
Minimum system: 486, 8Mb of RAM, 25Mb hard disk

SEGA double bill



Sonic the Hedgehog, the quintessential superstar of Mega Drive gaming has made it to the PC in the top half of *PC Review's* exclusive SEGA double bill.

The prickly blue garden beastie with the springing gait, the glowingly cheeky personality and the deadly-to-insects spinning jump attack, will now be speeding across your PC screen in all his 256-colour glory. (Remember to change your Display settings before

running the demo, folks.) Here we bring you four levels of *Sonic CD*, the Mega CD version of Sonic which has been converted to PC. The first levels are easy, but the metallic levels you get to later, however, are a bit tougher. Watch out for the dart mosquitos, and be sure to use the springs to your ring collecting advantage. And hey, if you leave Sonic idling on your PC, get ready for the Sonic Boom animated sequence.

Less known, but no less eminent in

Sonic the Hedgehog is on your PC at last.

Join him and feast for an insectoid feast.

this double bill is *Bug!* Bug is the 3D Sega Saturn character who inhabits a world of muddy ramps and lives by collecting floaty grey things. His enemies are deadly beetles and grasshoppers, so you better avoid them when you're playing this, one of Sega's first 3D platformers. It might lack the pace of *Sonic*, but it makes up for it in intricacy. Be careful how you move bug about, there are many perils in his antennae-and-carapaced world.



RETRO GAME OF THE MONTH

CENTIPEDE

Controlling your shooting ship-blip using a trackball, you had to blast the descending centipede as well as the annoying spiders, fleas and so on. Shoot the centipede and the segment shot would turn into a mushroom. If shot in the middle of its body, the polypedal crawler would split in half, doubling your headache. And, when segments got to the bottom of the screen, they'd double back on you.

If you want authentic Centipede action, perhaps you should get the Microsoft Arcade pack which sells for £19.99. Call Microsoft on 0345 002000.



Load up Micropede 1.4 and pretend you're back in the arcades of 15 years ago.

From: Robert B. Easter
reaster@virtu.sar.usf.edu
Minimum system: 486, 8Mb RAM, 2Mb hard disk, Win95

Scorched Planet

Scorched Planet is a 3D landscape-based shooter built on the gaming ethics of *Defender*. In this demo you have to pick up civilians and transport them through the space port to safety.

When you begin the demo your vehicle will be on the ground. Hit [End] and it will morph from tank to flying ship. You can now fly around searching for humans to rescue. Once you've found some humans, land near them and hit [Home]. You can pick up five at a time so you'll probably have to double back on yourself a few times before completing the level.



You'll find that your vehicle in *Scorched Planet* can morph from tank form into a flying death machine.

From: Virgin
0171 368 2255
Minimum system: P90, 16Mb RAM, 17Mb hard disk

Network Q RAC Rally

The minimum installation of 2Mb doesn't work on all machines, so opt for the 58Mb install. If you've less than 16Mb of RAM should leave Windows, restart and run the demo in DOS.

You'll be able to take a Subaru Impreza out for a spin and can even customise its suspension, steering response, tyre types and brakes. When you've done so, you're challenged to get the best time on the Crychan stage of the RAC Rally: three driving surfaces and a collection of hairpin turns. Check out our review on page 52.



Splosh through an evergreen forest in a Subaru with our one-stage rally challenge.

From: Europress
01625 859333
Minimum system: 486/66, 8Mb RAM, 2Mb hard disk

Close Combat

Part of Microsoft's latest foray into gaming, *Close Combat* is a strategy wargame, reviewed on page 56. You can take part in training exercises by selecting Boot Camp, or go for combat action via the Manoeuvres section. You can be an American or a German.

From: Microsoft 0345 002000
Minimum system: Pentium, 8Mb RAM, 20Mb hard disk

Necrodome

You control a driver-entertainer whose job is to survive in a 3D enclosed arena, bringing pleasure to millions of our futuristic descendants by maiming and killing allcomers. Your armoured car is equipped with all the latest and deadliest weaponry available.

From: Mindscape 01444 246333
Minimum system: P60, 8Mb RAM, Win95

TZ-Minigolf 2

The first release was loopy. This, the second version, is harder and even more addictive. The objective is to hole the ball, but here you're up against all sorts of obstacles. The reproduced physics involved are fantastically real too. We hope you like 'em.

From: Atlantic Coast
01297 553900 Minimum system: 486, 8Mb RAM, 6Mb hard disk

THE QUAKE COLLECTION

Once again, we've brought you the best new *Quake* upgrades. Remember, these patches can only be used with the registered game, not the shareware version. You'll need to be familiar with Windows operations to use these.

You'll need to unzip the patches with *Winzip*, which is in our Essentials collection.

All the patches and levels include text files, which you should read before using them.

Generally, to use a 'prog' patch – the new weapons and opponents – you first create a new directory in the *Quake* folder. Then, copy the patch into it and unzip it. Finally, launch the game by typing quake -game [xxx], where xxx is the new directory.

To use a new level, create a folder called Maps in the Id directory, in the *Quake* folder. Unzip the new level into Maps then run *Quake*. To access the new level, go to the *Quake* console and type Map [xxx], where xxx is the name of the new level.

Remember, these are not commercial products!

Getting to grips with...

XRES

Macromedia's xRes is the thinking man's photo editing program – with the thrill of natural media painting.

XRes combines high-res image editing and composition with natural texture painting, plus multi-channel objects, which act like layers on the image. That means text and image objects all have their own attributes and can be floated around the picture until they are dropped on to it permanently. This way you can control how individual items look without spoiling your artwork, by trying out filters or fills, then having the security of multiple Undos to get you out of trouble.

So now's your chance to try out the demo version. Saving is disabled, and some of the more advanced tools are missing. Follow our tutorial, which uses two Images from previous CD Review disks (Fist2.BMP from disk 60, and Computr3.BMP from disk 59) and learn how to control some of the finer points of xRes; we'll cover image manipulation, object layers, gradient fills, text, filters and textured painting.

From the File menu, Open the computer image. From the Modify pull-down menu, select Color Mode/RGB to allow us to use the full range of effects offered by the software. Open the Fist image too, and set to RGB as before.

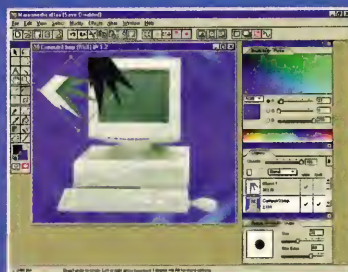
Select		Lasso
Ellipse marquee		Rectangle mar-
Text		Wand selector
Hand		Zoom
Resize		Rotate
Skew		Crop
Pen		Linea
Eyedropper		Fill
Gradient		Clone stamp
Eraser		Brush
		Background/Foreground colours and masking tools.

Create new image	Open File	Save File	Import file	Print file	Undo	Redo	Cut	Copy	Paste	Fill	Stroke	Select All	Select none	Select inverse	Float selection	Drop object

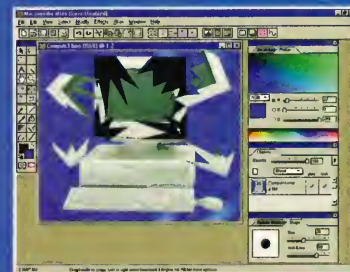
From: Macromedia ☎ 01344 761111
Minimum System: 486, 8Mb RAM, 6.5Mb hard disk



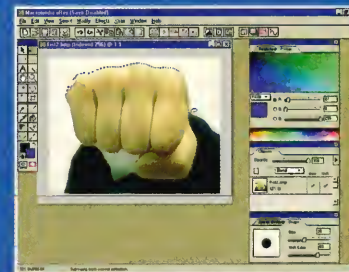
1 Click the computer pic to bring it to front. Click the lasso tool and while pressing [Alt] draw a line around the computer clicking as you follow edges. Join with the start point, and click the Inverse icon. Double click the Gradient tool and select Cobalt Blue as the scheme, Blend as method and Folds as technique. Draw a diagonal line from top left to bottom right to gradient fill the background.



2 Using the lasso tool, again with Alt pressed, start at the top left edge of the computer and draw a continuous jagged shape as in the illustration. From the Edit menu, select Copy. Make black the background colour. Click on Edit/Clear. Press Ctrl/D, then Ctrl/V to paste. Using the arrow tool, click and drag the clip adjacent to the computer picture.



3 Repeat this process around each corner of the computer. Rotate each clip individually after you have pasted it back on screen. Either use the Rotate icon to click and spin, or the Image/Rotate menu option – a value of 15° is fine. Remember to Drop the clip back into the picture after rotation to avoid having too many layers active (each clip creating its own layer).



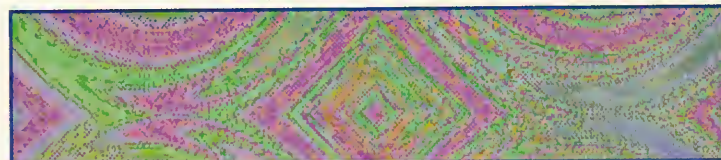
4 Activate the Fist image. From Modify, choose Resize document, and give it a horizontal value of 400; maintain the aspect ratio. Using the Lasso and Alt key, carefully draw a continuous selection around the fingers, ignoring the coat sleeve. You could try the lasso tool without Alt if your Freehand style is accurate. From Edit, Copy the selection, then click on the computer image.

SHAREWARE S

Psychedelic Screen Saver Collection

The *Psychedelic Screen Saver Collection* is – you win no prizes for guessing – a collection of psychedelic screen savers. As the patterns materialize on your screen, the colors will shift,

undulate, and in technical terms, look 'far out'. Whether you're into abstract art, mathematics, or have just spent too much time mainlining *Ren & Stimpy*, you'll love this program.



So that's the visual representation of a hangover.

From: Mike Irvine pixel@halcyon.com Minimum system: 486, 4Mb RAM, Win95

MULTIMEDIA

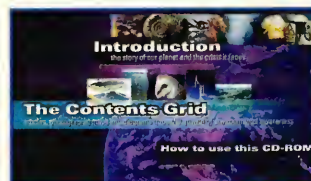
Planet Earth

Here at PC Review we're committed to saving the planet. But we're even more committed to bringing you the best software. That's why we long and hard to ensure you'd be the first PC mag fans in the world to experience this staggeringly good demo.

The full narrated Introduction section is here, but the real treat is the fact that entire Animals section from the full disc is included. Subtopics include Animal Rights, Genetics, Changing

Attitudes, Disappearing Species, Fish Farming and Vegetarianism. There's heaps of information here for you to browse, and this is only a fraction of what's on the finished disc.

Click the emergency signs at the bottom of the screen to call up an events diary for each period. Likewise,



Hit the Introduction to learn the worryingly vast catalogue of environmental problems we face.

if you click on the triangles across the top pull-down menus of articles available can be accessed. The most active area is from 1992 to 1995 where you can read up on hot issues like fox hunting.

From: News Multimedia ☎ 0171 782 3982 Minimum system: 486, 8Mb RAM

HAREWARE SHAREWARE SHA

Small Utilities 2.0

At last, Windows 95 is proving its worth, with Plug and Play games arriving and the Microsoft behemoth suddenly seeming less of a Poor and Stupid Man's Mac. But, of course, it isn't perfect. The *Small Utilities 2.0* package includes loads of small, quick tools targeted toward specific areas in the Windows 95 interface that need improving. The name makes no bold claims, and nor do the programs. They just promise to improve your life.

From: Scott McMahan 30 Clairmont Ave
A-8, Asheville, NC 28804 Minimum system:
486, 4Mb RAM, 0.1Mb hard drive

WinSIRDS 4.5

You know those funny pictures that you stare at until you're convinced you can see a castle, or car, or the Angel Gabriel? (When they first arrived at Glastonbury a few years back everyone thought they were some sort of drug induced effect -- true!) Anyway, bet you didn't know that they're called Single Image Random Dot Stereograms (SIRDS). With *WinSIRDS 4.5*, you can create and store your own SIRDS. Just don't blame us if your eyes go square.

From: Eduardo Suastegul
esuastegul@msn.com
Minimum system: 386, 4Mb RAM

WinTidy

WinTidy helps you to make the most of your hard disk. Many programs generate backup files that can be safely deleted, and program developers may wish to delete those 'intermediate' files and pre-compiled headers that clutter up C++ or Delphi projects. *WinTidy* spots these, and enables you to delete them. It does not delete the files automatically. Warning: deleting files from your hard drive may affect the working of your system. We advise you to read the help file.

From: David Taylor
david.taylor@gecm.com
Minimum system: 486, 4Mb RAM

Button Works

Button Works gives Windows 3.1 users a Windows 95 style task bar, without forking over extra cash, RAM or a three-year wait. When the button bar is initially loaded, it will appear at the bottom of your screen. To configure a blank button, all you have to do is click on it. A window then appears containing all the Program Manager groups and their respective items. Choose a group, then select an item within that group and click on the Use button. That's it!

From: Hermco Systems 72772.1552@compuserve.com Minimum system: 486, 4Mb RAM, 0.1Mb hard drive, Windows 3.1

MULTIMEDIA MULTIMEDIA

Women's Rights

The entire introductory section. To see this, just click on the word Overview. In addition to this, you can explore the progress women have made this Century in the Timeline.

From the Issues screen all the articles associated with the Body section are in there. Find out about women in sports, women having babies, abortion and prostitution among other things. Lots of piccies here too. An excellent information packed demo. We hope you enjoy it.



This demo has all the headlines on the hemlines, and a whole lot more to boot.

From: News Multimedia ☎ 0171 782 3982
Minimum system: 486, 8Mb RAM

Mensa MindBenders

Can your brain take the strain? To give you a chance to give you a sample of what the full *Mensa Mindbenders* disc is about we bring you this exclusive demo.

Click install from the *CD Review* menu and follow the procedure. Then quit out of our glorious beach scene and run the demo straight from your CD drive. You'll be able to attempt the Word Pyramid, the Missing Number test from the Numbers section and a particularly green maze. Then it's time to strain your brain with a five-question IQ test. Easy. If you want to learn more about your noodle, DNA or the derivation of pi, slip into a few sample pages from the infobase part of the disc.

From: Macmillan Interactive ☎ 0345 697008
Min: 486, 8Mb RAM, 0.1Mb hard disk space

Official Driving Instructor

Right. Before you do anything, install Video for Windows from the Essentials section of *CD Review*. You'll need it before you can run this demo.

How about this one? Finally, a driving instructor that doesn't have bad breath or a tendency to make sarcastic remarks about your nascent car handling abilities. Instead, here you're offered screens telling you what makes a good driver jazzed up with video clips and pictures. Outlawed practices, as you'll see, include reading or talking on the phone while driving.

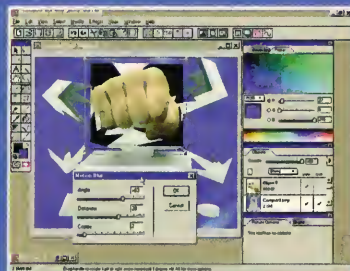
With this *Official Driving Instructor* demo you can take a mock driving exam. You have to get 76 per cent of the questions right to pass and if you

don't attain this, we recommend you either go back to your Highway Code or pick up the full version of *Official Driving Instructor* where you can learn all the answers and take more tests!

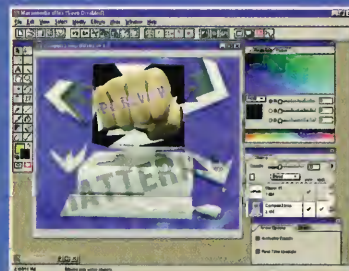


The Official Driving Instructor teaches you the rights and wrongs of driving technique.

From: Europress ☎ 01625 859333 Minimum system: 486, 8Mb RAM



5 Press Ctrl/V to paste. Using the arrow tool, place the fist in front of the monitor. From Image, choose Rotate/arbitrary, and enter a value of 15 CCW to turn the fist. From Effects/Blur, select Motion, and enter values of +63 angle, 20 distance and copies 2 to simulate the punching movement. Drop the fist image on to the pic when placed correctly.



6 Select blue as foreground colour. Click on text tool, enter words for hand tattoo; around 55 point, bold font. Position the text, and on the Objects menu, set opacity to 40. Modify/Rotate the text 15°. If you don't like it, you can delete the text by dragging its layer on the Objects menu into the trash can. Do the same with the Shattering text, but set transparency to 20 and use a size of 170.



7 The word 'Shattering' is built out of two different coloured Images of the identical text, slightly offset from each other to give a 3D effect, and each rotated the same amount. Remember to Drop the text object after it's placed properly. You can then add depth shadows to the computer and flying pieces using a small sized airbrush and dark blue.



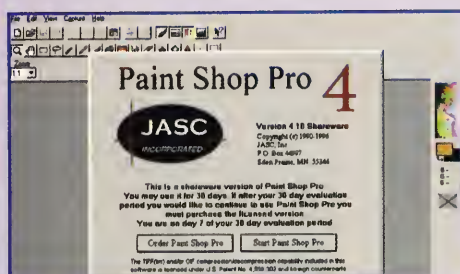
8 To create the shards of broken glass, use the lasso tool to define a pointing shape. Float the selection and then select light blue as foreground colour. Use the Oryx texture at 100 per cent and the airbrush. Set object opacity to 50. Highlight the leading edges of the glass with a 1 pixel white line, and then emphasise the back edges with a black line.

THE WORKS THE WORKS

The How To... collection

Paint Shop Pro 4.0

Probably the world's best and certainly the world's most widely used graphics manipulation program has just reached Version 4.0. We like it so much we've had it in our Essentials selection for months. *Paint Shop Pro 4.0* supports over 30 graphics file formats, and there's a batch converter for changing from one format to another. You can use it to capture screens and retouch them, or you can scan them in from any TWAIN scanner. Version 4.0 includes built-in special effects and, of course, the *Paint Shop Pro* browser. If you use *Paint Shop Pro 4.0* regularly, do register after 30 days.



Paint Shop Pro just keeps on getting better.

From: Digital Workshop ☎ 01295 258335
Minimum system: 486, 4Mb RAM, 5Mb hard disk

ClarisWorks 1.0

You've read our Work from Home feature starting on page 109, now try out the programs. Generally, home users will find all the application software they need in an integrated package like *ClarisWorks 1.0*. But multiple program packages don't get the recognition they deserve (even *Microsoft Works* failed to sell in the expected numbers), partly because people perceive them as being somehow inferior to the full programs. In a bangs per buck sense though, they can't be faulted.

ClarisWorks gives you a spreadsheet, a graphics package, a database and a word processor. One key advantage of a comprehensive suite of office software like this is that it's easy to transfer of information between them. Another is that since all the products are covered in the same help files, you can search on, say, a mathematical function, without guessing which application would be most appropriate. Try it out.



We didn't want to favour one application over the other.

From: Claris ☎ 0181 756 0101
Minimum system: 486, 8Mb RAM

Each month we bring you three of the best productivity apps out there, and tutorials to give you a kickstart in the right direction.

Jammer Hit Session

Tying in with our music special this month, (which you'll find starts on page 69) we bring you a fully working version of *The Jammer Hit Session*. If you are an undiscovered musical genius, now is the time to prove it. While *Jammer* enables you to compose MIDI music in any style, from rock to jazz, it's real strength comes when you're improvising.

As it's creator David Castles says: "The idea was not to build a program where you told it how every lick should be played, but to build a dynamic system which has the freedom to improvise within a melodic envelope and the ability to capture and arrange those pieces of music." Thus *Jammer* will record that Keith Richard's riff before it's lost to posterity through frustration and humming.

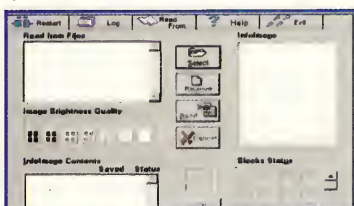
Catch those rare moments of inspiration with *Jammer Hit Sessions*.



From: Soundtrek ☎ support@soundtrek.com
Minimum system: 486, 4Mb RAM, 5.5Mb hard disk

3D Fax

By using *3D Fax* you can transmit and receive large volumes of computer files by fax, cutting out at least one source of rainforest destruction. Transmission is via your fax-modem, and reception by either the common fax-machine or else a fax-modem. *3D Fax* compresses and transforms data files that you select for transmission into a coded pattern. It then loads up any standard fax application installed on your PC, and transmits to the destination of your choice.

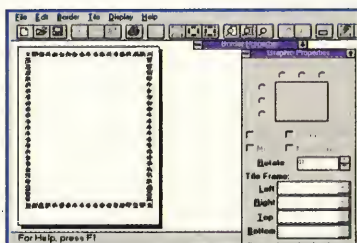


An intuitive windows-based front-end, takes the hassle out of electronic faxing.

From: Infolmaging Technologies
☎ 800 966 1140 Minimum system: 486, 4Mb RAM, 1.5Mb hard disk

Ornamatica Intro

Ornamatica automatically creates ornamental borders, corners and crossheads for adverts, menus, brochures and other DTP projects. You get over 5,000 design elements for free, from simple milled lines, through to ornate certificates, as well as tiles for special themed borders – party, xmas, weddings, certificates.



Ornamatica provides the borders, you supply the cheesy rhymes.

From: Digital Workshop ☎ 01295 258335
Minimum system: 486, 8Mb Ram, 2Mb hard disk.

Techno Maker

No musical knowledge is required: *Techno Maker* has been developed to let everyone produce music in the shortest possible time. Its eight sound tracks enables you to assemble more than 140 sound samples from the sound library included, and offer the capabilities of a much larger and more expensive professional system.

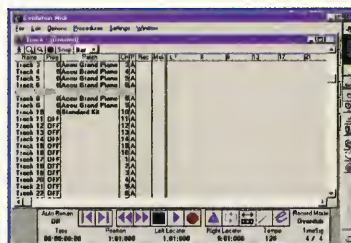


Knocking up a drum and bass odyssey is no problem with *TechnoMaker*.

From: Data Becker ☎ 01420 22707
Minimum system: 486, 8Mb RAM, 6Mb hard disk

Evolution MIDI

Evolution MIDI is our final program to tie in with this month's music feature. It provides a unique combination of MIDI recording and editing, enabling you to make the most of your musical ideas. The on-screen keyboard is ideal if you don't know a B flat minor from a bull's foot, or you can even use the PC keyboard to play and record your music.



Evolution MIDI offers more than enough tracks for the budding maestro.

From: Evolution Electronics Ltd
☎ 01525 372621 Minimum system: 486, 4Mb RAM, 1.5Mb hard disk

The Complete Internet Revenge Manual

Don't get mad. Get even on-line.
Then get mad. This month –
a smelly spoof letter.

Part 3

We show exactly how to spoof victims – that's the art of sending phony e-mails on our Web site (<http://futurenet.co.uk>). But remember, you never heard it from us, OK?

The Complete Internet Revenge Manual is brought to you by Mark Leigh and Mike Lapine. If you like this, then you'll love their latest book. *The Office Revenge Kit* is published by Virgin Books in November 1996 and contains 90 of the most despicable and downright spiteful ways to get your own back at people in the office, like bitchy secretaries, flash salesmen, boring bosses – even pompous chief executives. In fact, anyone can be targeted, effectively and anonymously, with one of the authentic looking memos, letters, faxes, notices or other items from the kit. Simply add their name and stick it in the internal post, under the photocopier, by the fax machine or on their desk. Revenge is sweet – and it hasn't ever been so simple or so much fun.

**NEXT ISSUE ON SALE
THURSDAY 7 NOVEMBER**

Top Gear: 50 gadgets and gizmos for your PC

FROM THE INTERNET CHEESE HERITAGE GUILD
Dear Member,

Thank you for your completed membership e-form and credit card details, and welcome to the ever-expanding world of the quality bulk cheese connoisseur. Thanks for committing yourself to this twenty-four month subscription – we know you'll find it money well-spent!

The Internet Cheese Heritage Guild is unique. No other lactic on-line service offers diners or gourmands the range of the world's finest cheeses that we aim to bring you. No matter if your penchant is for ripened or unripened, pasteurised or unpasteurised, soft or hard cheese, we can cater to your tastes and guarantee to introduce you to new and exciting bulk cheeses unavailable in even the best-stocked delicatessen.

Each month, we will e-mail you with details of a top cheese that you simply must try. A cheese with that indefinable something extra, whether it be consistency, superb palatability, bouquet or aftertaste. A cheese of sophistication – or delightful rudery. Cheese fit for a monarch, or fit for a ploughman – but always delightful, always surprising.

This is our designated 'Web Cheese of the Month', as selected by our team of four internationally respected fromage gourmands and delivered direct to your door.
Your first cheese selection will be Bavarian Smoked, a delightful character cheese with the subtlest tang of Black Forest charcoal, perfect with dry German white wine. A 42lb round of this superb connoisseur's cheese will be automatically despatched to your door on the first day of next month.

Future 'Web Cheese of the Month' selections you may look forward to in the months ahead include:

- Quark – the delicately flavoured, slightly sour secret treasure of Germany.
- Emmenthal – mild and smooth, with that irresistible nutty tang – and from France, not Switzerland this time!
- White Stilton – a traditional cheese that is always a pleasant surprise to rediscover!
- Mascarpone – snowy white and with the silky consistency of butter, try it as a dessert!

For your convenience, payment for this 'Web Cheese of the Month' selection and all further 'Web Cheese of the Month' selections will be automatically debited to your credit card 14 days after delivery at the agreed price of just £49.99, plus £22.50 towards delivery and handling. We regret that we have to reserve the right to charge your card slightly higher rates on more expensive cheese, when necessary.

Look out also for our exclusive invitations to participate in our exciting on-line forums where you can meet like-minded cheese connoisseurs and share recipes and serving suggestions. The club also organises Fondue evenings, cheese and wine evenings, and Melts and Round Rollings in most major towns. A detailed programme of forthcoming events is presently being prepared and will be e-mailed shortly together with a downloadable copy of 'Fromage Quarterly' magazine.

Once again, welcome to the Guild. I hope that you'll stay with us for years to come and continue to enjoy the fine selection of cheeses we pledge to bring to your door.

Yours faithfully,

John Barker
Guild Membership secretary

The Internet Cheese Heritage Club is a registered trade name of CyberCheese Associated Food PLC, and part of the World Wide Web Gourmand Enthusiasts Network which includes Dine Italian, The Spice Rack, The Biscuit Break, Virtual Blancmange of the Month Club, Herb Magic, The Pudding Club, The Shortbread League, Food Snobs, Salad Days, Microwave Magic, Chutneys of the World, The World Fruit Club and Cook Cajun!

STOP PRESS! STOP PRESS! STOP PRESS! STOP PRESS! STOP PRESS!
Visit our new Cheese Home Page: <http://www.cheese.melty.co.uk>

TIME LAPSE



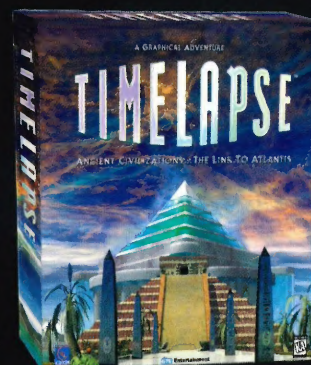
Embark on an adventure game through ancient civilisations to discover the alien secret

The mystery of the lost city of Atlantis has baffled scientists and dreamers alike for many years. Now, at last, through the power of CD-ROM, Timelapse brings us the answer.

An inquisitive archaeology professor has discovered the Timegates; doorways through which he can visit the lost ancient worlds and due to his curiosity and enthusiasm, he has

become trapped between the past and present, and it is you, the player who are destined to set him free.

With over 40 hours of involving gameplay pushing you to the very limits of reasoning and logic coupled with superb graphics and sounds, Timelapse brings you the very best in gaming.



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PHILIPS

GTE Entertainment

Web Site at: <http://www.im.gte.com>

PC & MAC CD-ROM



BATTLECRUISER
3000AD
PC CD ROM

GAMETEK